CCD-SC65/SC65E

RMT-717

SERVICE MANUAL

US Model
Canadian Model
CCD-SC65
AEP Model
UK Model
CCD-SC65E
E Model
CCD-SC65/SC65E

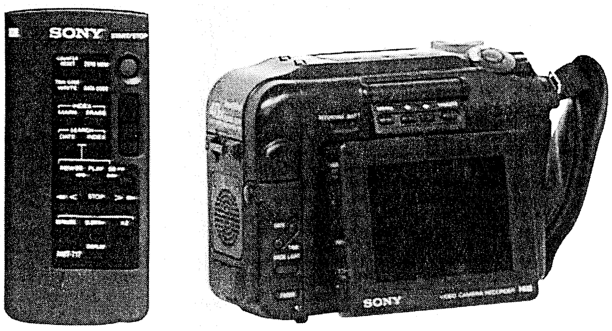

Photo: CCD-SC65E
: RMT-717

video Hi8
Handycam

T2 MECHANISM

Differences Manual

NTSC : CCD-SC65
PAL : CCD-SC65E

For MECHANISM ADJUSTMENT, refer to the "8 mm Video MECHANICAL ADJUSTMENT MANUAL VIII" (9-973-886-11).

This Service Manual covers only differences from the CCD-SC55/SC55E.
In performing repair, refer also to the CCD-SC55/SC55E Service Manual (9-973-887-11).

V16065 #201405

- **Main differences:**
  LCD backlight switch added
  Lighting window added
  Lens cap added
  Cap string added
- **Change of boards:**

FP-345 board	→	FP-595 board
PD-64 board	→	PD-90 board

- **Change of board name:**

CH-92 board	→	CH-94 board
MA-260 board	→	MA-319 board
VA-96 board	→	VA101 board
VD-25 board	→	VD-27 board

(SEE PAGE □□): Pages on the original service manual.
<SEE PAGE □□>: Pages on this service manual.
☞ : Points added parts.
☛ : Points deleted parts.
☞ : Points changed parts.

Hi8 VIDEO CAMERA RECORDER

SONY®

MICROFILM

SPECIFICATIONS

Video camera recorder

System

Video recording system
Four rotary heads, Helical scanning
FM system

Audio recording system
Rotary heads, FM system

Video signal
NTSC color, EIA standards
(CCD-SC65)
PAL color, CCIR standards
(CCD-SC65E)

Usable cassette
8 mm video format cassette (Hi8 or standard 8 mm)

Recording/playback time
SP mode: 1.5 hours (E5/P5-90)
LP mode: 3 hours (E5/P5-90)

Fastforward/rewind time
Approx. 8 min. (E5/P5-90)

Image device
CCD (Charge Coupled Device)

Lens
Combined power zoom lens, 40x (Digital), 10x (Optical)

Focal distance
f = 4.2 to 42 mm
(3/16 to 1 11/16 in.)
(48 to 480 mm (1 15/16 to 19 in.) when converted into a 35 mm still camera)
F 1.8 – 2.9
TTL autofocus system inner focus wide macro system

Colour temperature
Auto

Minimum illumination *
4 lux at F 1.8

Illumination range
4 to 100,000 lux

Recommended illumination
More than 100 lux

* Minimum illumination expresses the light level a camcorder requires to produce a picture. Visible minimum low light expresses the light level to produce a visible signal.

LCD screen

Picture
3 inches measured diagonally
59.5 x 43.2 mm (2 3/8 x 1 3/4 in.)

On-screen display
TN LCD/TFT active matrix method

Total dot number
89,856 (384 x 234)

Input and output connectors

S video output
4-pin mini DIN
Luminance signal: 1 Vp-p, 75 ohms, unbalanced, sync negative
Chrominance signal:
0.286 V p-p, 75 ohms, unbalanced
(CCD-SC65)
0.3 V p-p, 75 ohms, unbalanced
(CCD-SC65E)

Video output
Special minijack, 1 Vp-p, 75 ohms, unbalanced, sync negative

Audio output
327 mV, (at output impedance more than 47 kilohms)

Headphones jack
Stereo minijack (ø 3.5 mm)

MIC jack
Stereo minijack, 0.388 mV low impedance with 2.3 to 2.75 V DC output, impedance 6.8 kilohms
(ø 3.5 mm)

Speaker
Dynamic-speaker

Connection
26-pin connector

General

Power requirements
7.2 V (battery insertion input)
8.4 V (26-pin connector)

Average power consumption
5 W during camera recording

Operating temperature
0°C to 40°C (32°F to 104°F)

Storage temperature
-20°C to +60°C (-4°F to +140°F)

Dimensions
Approx. 140 x 101 x 79 mm
(w/h/d) (5 5/8 x 4 x 3 in.)

Mass
Approx. 670 g (1 lb 7 oz) excluding the battery pack NP-F530, lithium battery, cassette, and shoulder strap
Approx. 810 g (1 lb 12 oz) including the battery pack NP-F530, lithium battery, cassette E5/P5-90, and shoulder strap

Microphone
Electric condenser microphone, Stereo type

Supplied accessories
Wireless Remote Commander (1)
NP-F530 battery pack (1)
AC-V615 AC power adaptor (1)
Lens cap and string (1)
Shoulder strap (1)
A/V connecting cable (1)
R6 (sizeAA) battery for Remote Commander (2)
DK-626 connecting code (1)
Sunshaade (1)
21-pin adaptor (1) (CCD-SC65E: AEP, UK)

AC power adaptor

Power requirements
100 to 240 V AC, 50/60 Hz

Power consumption
25 W

Output voltage
DC OUT: 8.4 V, 1.8 A in operating mode
Battery charge terminal: 8.4 V, 1.4 A in charge mode

Application
Sony battery pack NP-F530 lithium ion type

Operating temperature
0°C to 40°C (32°F to 104°F)

Storage temperature
-20°C to +60°C (-4°F to +140°F)

Dimensions (Approx.)
56 x 44 x 107 mm (2 3/16 x 1 3/4 x 4 3/16 in.) (w/h/d)

Mass (Approx.)
190 g (6.7 oz)

Design and specifications are subject to change without notice.

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This section is extracted from CCD-SC65E instruction manual.

SECTION 1
GENERAL

Using this manual

Использование данного руководства

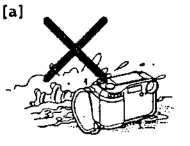
Precautions on camcorder care

- The LCD screen and/or the colour viewfinder are manufactured using high-precision technology. However, there may be some tiny black points and/or bright points (red, blue or green in colour) that constantly appear on the LCD screen and/or in the viewfinder. These points are normal in the manufacturing process and do not affect the recorded picture in any way. Over 99.99% are operational for effective use.
- Do not let the camcorder get wet. Keep the camcorder away from rain and sea water. Letting the camcorder get wet may cause the unit to malfunction, and sometimes the malfunction cannot be repaired [a].
- Never leave the camcorder exposed to temperatures above 60°C (140°F), such as in a car parked in the sun or under direct sunlight [b].

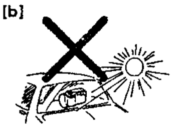
Предосторожности по уходу за видеокамерой

- Жидкокристаллический экран и/или цветной видоискатель видеокамеры изготовлены с применением сверхточной технологии. Тем не менее не исключено, что на экране и/или в окне видоискателя будут постоянно заметны отдельные мельчайшие черные или цветные (красные, синие либо зеленые) точки. Это нормальное явление, обусловленное техническими особенностями производственного процесса и никак не отражающееся на качестве видеозаписи. Доля нормально функционирующих элементов изображения всегда превышает 99,99%.
- Не позволяйте видеокамере делаться влажной. Предохраняйте видеокамеру от дождя или морской воды. Если Вы намочите видеокамеру, то это может вызвать неисправность аппарата, и в некоторых случаях эта неисправность не подлежит ремонту [a].
- Никогда не оставляйте видеокамеру в месте с температурой свыше 60°C (140°F), как например, в автомобиле, остановленном на солнце или под прямыми солнечными лучами [b].

[a]



[b]

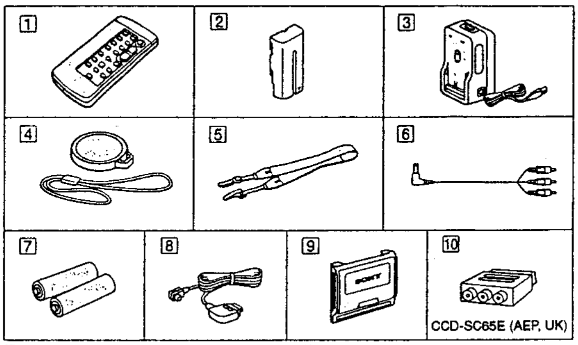


Checking supplied accessories

Проверка прилагаемых принадлежностей

Check that the following accessories are supplied with your camcorder.

Проверьте, что следующие принадлежности прилагаются к Вашей видеокамере.



1. Wireless Remote Commander (1) (p. 104)
2. NP-F530 battery pack (1) (p. 7)
3. AC-V615 AC power adaptor (1) (p. 7, 31)
   The shape of the plug varies from region to region.
4. Lens cap and string (1) (p. 102)
   The lens cap is attached to the camcorder.
5. Shoulder strap (1) (p. 102)
6. A/V connecting cable (1) (p. 57, 69)
7. R6 (size AA) battery for Remote Commander (2) (p. 105)
8. DK-626 connecting cord (1) (p. 31)
9. Sunshade (1) (p. 12)
10. 21-pin adaptor (1) (p. 58)
    CCD-SC65E (AEP, UK)

Contents of the recording cannot be compensated if recording or playback is not made due to a malfunction of the camcorder, video tape, etc.

1. Беспроводный пульт дистанционного управления (1) (стр. 104)
2. Батарейный блок NP-F530 (1) (стр. 7)
3. Сетевой адаптер перем. тока AC-V615 (1) (стр. 7, 31)
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4. Крышка объектива и шнурок (1) (стр. 102)
   Крышка объектива прикреплена к видеокамере.
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9. Солнцезащитная бленда (1) (стр. 12)
10. 21-игольчатый адаптер (1) (стр. 58)

Содержимое записи не может быть компенсировано, если запись или воспроизведение не выполняется вследствие повреждения видеокамеры, видеоленты и т.д.

Getting started

Charging and installing the battery pack

Подготовка к эксплуатации

Зарядка и установка батарейного блока

Before using your camcorder, you first need to charge and install the battery pack. To charge the battery pack, use the supplied AC power adaptor.
This camcorder operates with the "InfoLITHIUM" battery pack. If you use any other battery pack to operate your camcorder, the camcorder may not operate or the battery life may be shortened.

"InfoLITHIUM" is trademark of Sony Corporation.

Charging the battery pack

Charge the battery pack on a flat surface without vibration.

(1) Connect the mains lead to the AC power adaptor.
(2) Align the surface of the battery pack indicated by the ▶ mark with the edge of the terminal shutter of the AC power adaptor. Then fit and slide the battery pack in the direction of the arrow.
(3) Connect the AC power cord to mains. The CHARGE lamp (orange) lights up. Charging begins.

When the CHARGE lamp goes out, normal charge is completed. For full charge, which allows you to use the battery longer than usual, leave the battery pack in place for approximately one hour. Unplug the unit from the mains, then remove the battery pack and install it into the camcorder. You can also use the battery pack before it is completely charged.

Перед использованием Вашей видеокамеры Вам нужно сперва зарядить и установить батарейный блок. Для зарядки батарейного блока используйте прилагаемый сетевой адаптер переменного тока.
Данная видеокамера работает от батарейного блока "InfoLITHIUM". Если Вы используете какой-либо другой батарейный блок для работы с Вашей видеокамерой, видеокамера может не работать, или срок службы заряда батарейного блока будет короче.

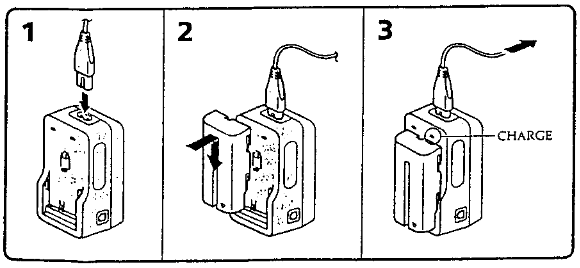
"InfoLITHIUM" является товарным знаком Корпорации Sony.

Зарядка батарейного блока

Заряжайте батарейный блок на плоской поверхности, не подверженной вибрации.

(1) Подсоедините сетевой провод к сетевому адаптеру перем. тока.
(2) Совместите поверхность батарейного блока, отмеченную знаком ▶, с краем входной задвижки сетевого адаптера перем. тока. Затем согласуйте и двигайте батарейный блок в направлении стрелки.
(3) Подсоедините сетевой шнур перем. тока к электрической сети.
Лампочка CHARGE (оранжевая) будет гореть. Зарядка началась.

Когда лампочка CHARGE погаснет, это указывает на завершение стандартного цикла зарядки батарейного блока. Для полной зарядки, что позволяет пользоваться видеокамерой дольше обычного, батарейный блок следует оставить подсоединенным к адаптеру еще примерно на один час. Отключите адаптер от сети, а затем снимите батарейный блок и подсоедините его видеокамере. Батарейным блоком можно начинать пользоваться также не дожидаясь, пока он зарядится полностью.



Charging and installing the battery pack

Зарядка и установка батарейного блока

Charging time

Battery pack	Charging time *
NP-F530 (supplied)	170 (110)

* Approximate minutes to charge an empty battery pack using the supplied AC power adaptor. (Lower temperatures require a longer charging time.)
The time required for a normal charge is indicated in parentheses.

Battery life

Battery pack	Continuous recording time **	Typical recording time ***	Playing time on LCD
NP-F530 (supplied)	100 (85)	60 (55)	105 (90)

Numbers before the parentheses indicate the time when you use a fully charged battery. Numbers in parentheses indicate the time when you use a normal charged battery pack.
Battery life will be shorter if you use the camcorder in a cold environment.

** Approximate continuous recording time indoors

*** Approximate number of minutes when recording with repeated recording start/stop, standby, zooming and turning the power on/off. The actual battery life may be shorter.

Notes on remaining battery time indication during recording

- When using the "Info LITHIUM" battery pack, remaining battery time is displayed on the LCD screen. It may not be displayed properly, however, depending on the conditions and circumstances of use.
- Once you close the sunshade, it takes about 2 minutes for the correct remaining time to be displayed after the sunshade is opened again.

Время зарядки

Батарейный блок	Время зарядки*
NP-F530 (прилагается)	170 (110)

* Примерное время в минутах, необходимое для зарядки разряженного батарейного блока с помощью прилагаемого адаптера сетевого питания. (При низких температурах продолжительность зарядки увеличивается).
В скобках указана продолжительность стандартного цикла зарядки.

Срок службы заряда батарейного блока

Батарейный блок	Время непрерывной записи **	Время типичной записи ***	Время воспроизведения на ЖКД
NP-F530 (прилагается)	100 (85)	60 (55)	105 (90)

Числа перед скобками указывают время, когда Вы используете полностью заряженный батарейный блок.
Числа в скобках указываю время, когда Вы используете нормально заряженный батарейный блок.
При низких температурах батарея разряжается быстрее.

** Приблизительное время непрерывной записи в помещении.

*** Приблизительное время в минутах при записи с повторным началом/остановом записи, режимом готовности, наездом видеокамеры и включением/выключением питания. Фактический срок службы заряда батарейного блока может быть короче.

Примечания к указанию оставшегося времени работы батарейного блока во время записи.

- При использовании батарейного блока "Info LITHIUM" оставшееся время работы батарейного блока отображается на экране ЖКД. Оно может не отображаться правильно в зависимости от условий и обстоятельств использования.
- Если Вы закроете светозащитную бленду, то приблизительно 2 минуты должно пройти до отображения правильного оставшегося времени после того, как Вы откроете светозащитную бленду снова.

Charging and installing the battery pack

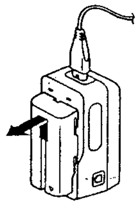
Зарядка и установка батарейного блока

To remove the battery pack

Slide the battery pack in the direction of the arrow.

Для снятия батарейного блока

Сдвиньте батарейный блок в направлении стрелки.



Notes on charging the battery pack

- The CHARGE lamp will remain lit for a while even if the battery pack is removed and the mains lead is unplugged after charging the battery pack. This is normal.
- If the CHARGE lamp does not light, disconnect the mains lead. After about one minute, reconnect the mains lead again.
- You cannot charge the battery pack while operating the camcorder using the AC power adaptor.
- When a fully charged battery pack is installed, the CHARGE lamp will light once, then go out.

Примечания к зарядке батарейного блока

- Лампочка CHARGE остается горящей на протяжении некоторого времени, даже если батарейный блок снят и сетевой провод отсоединен от сети после зарядки батарейного блока. Это является нормальным.
- Если лампочка CHARGE не горит, отсоедините сетевой провод. Приблизительно через одну минуту снова подсоедините сетевой провод.
- Вы не можете заряжать батарейный блок во время эксплуатации видеокамеры с использованием сетевого адаптера перем. тока.
- Когда установлен полностью заряженный батарейный блок лампочка CHARGE загорится один раз, а затем погаснет.

Charging and installing the battery pack

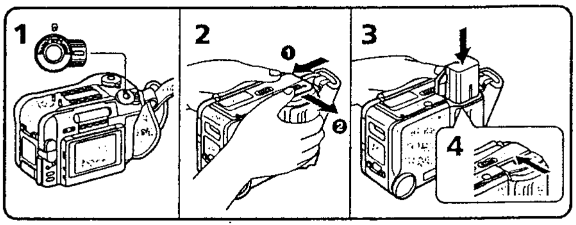
Зарядка и установка батарейного блока

Installing the battery pack

(1) Set the POWER switch to OFF to prevent misoperation of the camcorder.
(2) To open the lid of the battery compartment, slide the OPEN (BATT) release lever at the bottom of the camcorder toward you, then slide it to the right and release your hands.
(3) Insert the battery pack in the direction of the arrow.
(4) Close the lid and slide it to the left until it clicks.

Установка батарейного блока

(1) Установите выключатель POWER в положение OFF для предотвращения неправильной работы видеокамеры.
(2) Для открывания крышки батарейного отсека сдвиньте рычаг отблокировки OPEN (BATT) на нижней панели видеокамеры в направлении на себя, а затем сдвиньте его вправо и отпустите Вашу руку.
(3) Вставьте батарейный блок в направлении стрелки.
(4) Закройте крышку и двигайте ее влево, пока она не защелкнется.

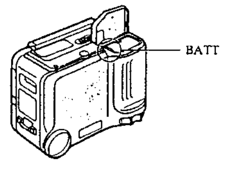


To remove the battery pack

Open the lid of the battery compartment. Then release the BATT release lever, and remove the battery pack.

Для снятия батарейного блока

Откройте крышку батарейного отсека. Затем освободите рычаг отблокировки BATT и снимите батарейный блок.



When removing battery pack

Always keep the lid of the battery compartment at the bottom of the camcorder upright so that the battery pack does not fall out when you open the lid.

При снятии батарейного блока

Всегда держите крышку батарейного отсека на нижней панели видеокамеры прямо, так, чтобы батарейный блок не выпал после открывания крышки.

Inserting a cassette

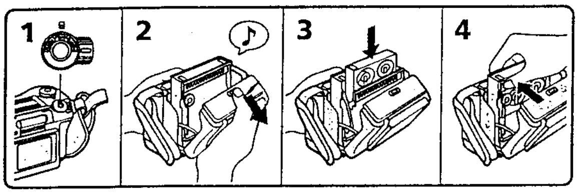
Вставка кассеты

Make sure that the power source is installed. When you want to record in the Hi8 system, use Hi8 video cassette Hi8.

(1) Set the POWER switch to OFF.
(2) Slide OPEN (CASSETTE) on the bottom of the camcorder in the direction of the arrow. The cassette compartment automatically lifts up and opens.
(3) Insert a cassette with the window facing out.
(4) Close the cassette compartment by pressing the PUSH mark on the cassette compartment. The cassette compartment automatically goes down.
(5) Close the lid until it clicks.

Убедитесь, что источник питания установлен. Если Вы хотите выполнить запись в системе Hi8, то используйте Hi8-видеокассету Hi8.

(1) Установите выключатель POWER в положение OFF.
(2) Сдвиньте OPEN (CASSETTE) снизу видеокамеры в направлении стрелки. Кассетный отсек автоматически поднимается и открывается.
(3) Вставьте кассету окошком, обращенным наружу.
(4) Закройте кассетный отсек путем нажатия знака PUSH на кассетном отсеке. Кассетный отсек автоматически опустится вниз.
(5) Закройте крышку, пока она не защелкнется.



To eject the cassette

Slide OPEN (CASSETTE) outward.

To prevent accidental erasure

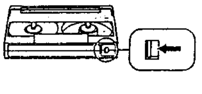
Slide the tab on the cassette to expose the red mark. If you insert the cassette with the red mark exposed and close the cassette compartment, the beeps sound for a while. If you try to record with the red mark exposed, the 🅾 and ≜ indicators flash on the LCD screen, and you cannot record. To re-record on this tape, slide the tab back out covering the red mark.

Для выталкивания кассеты

Сдвиньте OPEN (CASSETTE) в направлении наружу.

Для предотвращения случайного стирания

Сдвиньте лепесток на кассете, чтобы было видно красную метку. Если Вы вставите кассету, на которой видна красная метка, и закроете кассетный отсек, зуммерный сигнал будет звучать в течение некоторого времени. Если Вы попытаетесь выполнить запись с выставленной красной меткой, то индикаторы 🅾 и ≜ будут мигать на экране ЖКД и Вы не сможете произвести запись. Для выполнения новой записи на такую ленту сдвиньте лепесток назад для закрытия красной метки.



Using the sunshade

Использование светозащитной бленды

The supplied sunshade for the LCD screen reduces glare from the LCD screen. It also protects the LCD screen from dust and fingerprints when you are not viewing the screen.

Attaching the sunshade [a]

Align the tabs on the camcorder with the ones on the sunshade, and slide the sunshade down until it clicks.

Using the sunshade [b]

Lift the sunshade cover.

Notes on using the sunshade

- The sunshade has a magnet, so keep magnetic cards, etc., away from the sunshade.
- Even if the sunshade is attached, it may be difficult to view the LCD screen depending on the LCD panel angle.

Прилагаемая светозащитная бленда для экрана ЖКД понижает отблеск от экрана ЖКД. Она также защищает экран ЖКД от пыли и отпечатков пальцев, когда Вы не смотрите на экран.

Прикрепление светозащитной бленды [a]

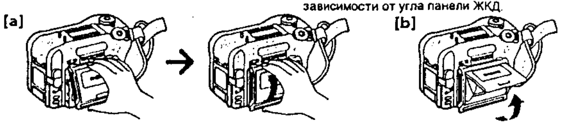
Совместите лапки на видеокамере с ушками на светозащитной бленде и сдвигайте светозащитную бленду вниз, пока она не защелкнется.

Использование светозащитной бленды [b]

Поднимите крышку светозащитной бленды.

Примечания к использованию светозащитной бленды

- Светозащитная бленда имеет магнит, поэтому храните магнитные карточки и т. д. подальше от светозащитной бленды.
- Даже если светозащитная бленда прикреплена, все равно может быть затруднительно смотреть на экран ЖКД в зависимости от угла панели ЖКД.

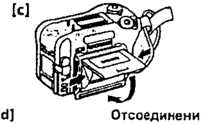


Shutting the sunshade [c]

While pressing both sides of the sunshade, press the sunshade cover in the direction of the arrow. When the sunshade is shut, the LCD screen turns off automatically and no sound comes out from the speaker.

Закрывание светозащитной бленды [c]

Нажимая на обе стороны светозащитной бленды, нажмите крышку светозащитной бленды в направлении стрелки. Когда светозащитная бленда закрыта, экран ЖКД выключается автоматически и звук не поступает от громкоговорителя.

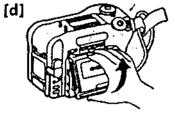


Detaching the sunshade [d]

First unhook the lower tab of the sunshade, then detach the sunshade by pulling it out in the direction of the arrow.

Отсоединение светозащитной бленды [d]

Сперва отцепите низшее ушко светозащитной бленды, а затем отсоедините светозащитную бленду, вытащив ее в направлении стрелки.



Camera recording

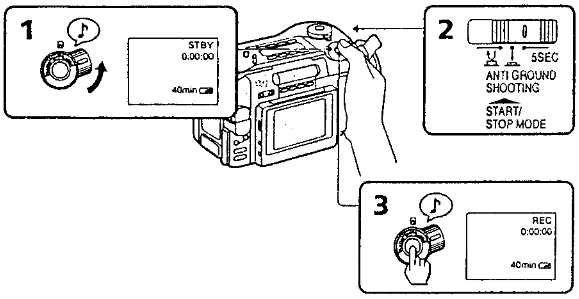
Запись с помощью видеокамеры

Make sure that the power source is installed and a cassette is inserted. When you use the camcorder for the first time, power on it and reset the date and time before you start recording (p. 72).
Before you record one-time events, you may want to make a trial recording to make sure that the camcorder is working correctly.

(1) While pressing the small green button on the POWER switch, set it to CAMERA. The camcorder is set to Standby mode.
(2) Slide START/STOP MODE to ♕.
(3) Press START/STOP. The camcorder starts recording. The "REC" indicator appears on the LCD screen. The camera recording lamps on the front and back of the camcorder also light up.

Убедитесь, что источник питания установлен и кассета вставлена. Если Вы используете видеокамеру в первый раз, то включите ее и установите дату и время перед началом записи (стр. 72).
Перед тем как Вы начнете запись одноразовых событий, Вы можете захотеть сделать пробную запись для подтверждения, что видеокамера работает правильно.

(1) Нажимая маленькую зеленую кнопку на выключателе POWER, установите его в положение CAMERA. Видеокамера будет установлена на режим готовности.
(2) Передвиньте START/STOP MODE в положение ♕.
(3) Нажмите START/STOP. Видеокамера начинает запись. Индикатор "REC" появляется на экране ЖКД. Лампочки записи камерой спереди и сзади видеокамеры также будут гореть.



To stop recording momentarily [a]
Press START/STOP. The "STBY" indicator appears on the LCD screen (**Standby mode**).

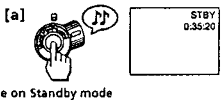
Для временной остановки записи [a]
Нажмите START/STOP. Индикатор "STBY" появляется на экране ЖКД (**режим готовности**).

Camera Recording

Запись с помощью видеокамеры

To finish recording [b]
Press START/STOP again to stop recording. Set the POWER switch to OFF. Then, eject the cassette and remove the battery pack.

[a]



Note on Standby mode
If you leave the camcorder in Standby mode for 5 minutes while the cassette is inserted, the camcorder turns off automatically. This prevents wearing down the battery and wearing out the tape. To resume Standby mode, while pressing the small green button on the POWER switch, set it to OFF once, and then to CAMERA. To start recording, press START/STOP.

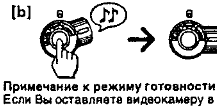
Note on recording
When you record from the beginning of a tape, run the tape for about 15 seconds before starting the actual recording. This will ensure that you will not miss any start-up scenes when you play back the tape.

Notes on recording mode
- This camcorder records and plays back in SP (standard play) mode and in LP (long play) mode. Select SP or LP in the menu system. The playback quality in LP mode, however, will not be as good as that in SP mode.
- When a tape recorded on this camcorder in LP mode is played back on other types of 8 mm camcorders or VCRs, the playback quality may not be as good as that on this camcorder.

Notes on the tape counter
- The tape counter indicates the recording or playback time. Use it as a guide. There will be a time lag of several seconds from the actual time. To set the counter to zero, press COUNTER RESET.
- If the tape is recorded in SP and LP modes mixed, the tape counter shows incorrect recording time. When you intend to edit the tape using the tape counter as a guide, record in same (SP or LP) mode.

Для окончания записи [b]
Нажмите START/STOP снова для остановки записи. Установите выключатель POWER в положение OFF. Затем вытолкните кассету и удалите батарейный блок.

[b]



Примечание к режиму готовности
Если Вы оставляете видеокамеру в режиме готовности на 5 минут при вставленной кассете, видеокамера выключится автоматически. Это предотвращает расход заряда батарейного блока и износ ленты. Для восстановления режима готовности, нажимая маленькую зеленую кнопку на выключателе POWER , сперва установите его в положение OFF, а затем в положение CAMERA. Для начала записи нажмите START/STOP.

Примечание к записи
Когда Вы начинаете запись от начала ленты, перематывайте ленту в течение 15 секунд перед началом фактической записи. Это будет гарантировать, что Вы не пропустите каких-либо начальных фрагментов, когда будете воспроизводить ленту.

Примечания к режиму записи
- Данная видеокамера записывает и воспроизводит в режиме SP (стандартного воспроизведения) и в режиме LP (удлиненного воспроизведения). Выберите SP или LP в системе меню. Однако, качество воспроизведения в режиме LP не будет таким хорошим, как в режиме SP.
- Когда лента, записанная на данной видеокамере в режиме LP, воспроизводится на других типах 8-мм видеокамер или КВМ, качество воспроизведения может быть не таким хорошим, как при воспроизведении на данной видеокамере.

Примечания к счетчику ленты
- Счетчик ленты указывает время записи или воспроизведения. Используйте его в качестве руководства. Существует отставание по времени на несколько секунд от фактического времени. Для установки счетчика на нуль нажмите COUNTER RESET.
- Если лента записана с чередованием режимов SP и LP, то счетчик ленты будет показывать неправильное время записи. Если Вы намереваетесь производить монтаж ленты с использованием счетчика ленты в качестве руководства, то выполняйте запись в одном и том же режиме (SP или LP).

Camera Recording

Запись с помощью видеокамеры

Note on the beep sound
As indicated with ♪ in the illustrations, a beep sounds when you turn the power on or when you start recording, and two beeps sound when you stop recording, confirming the operation. Several beeps also sound as a warning of any unusual condition of the camcorder.
Note that the beep sound is not recorded on the tape. If you do not want to hear the beep sound, select "OFF" in the menu system.

Adjusting the LCD panel angle [a]
Adjust the LCD panel to the angle you want. The LCD panel moves forward, backward, and upward.

Adjusting the brightness of the LCD panel [b]
Press LCD BRIGHT.
+ side: to brighten the LCD screen
– side: to dim the LCD screen

You may find it difficult to view the LCD screen due to glare when using the camcorder outdoors. In this case, use the sunshade.

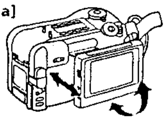
Примечание к зуммерному звуковому сигналу
Как указано на рисунках с помощью ♪, один зуммерный сигнал звучит, когда Вы включаете питание или начинаете запись, и два зуммерных сигнала звучат, когда Вы останавливаете запись, подтверждая тем самым работу. Несколько зуммерных сигналов также будет звучать в качестве предупреждения какого-нибудь необычного состояния видеокамеры.
Заметьте, что зуммерный сигнал не записывается на ленту. Если Вы не хотите слушать зуммерный сигнал, то выберите "OFF" в системе меню.

Регулировка угла панели ЖКД [a]
Отрегулируйте панель ЖКД до желаемого угла. Панель ЖКД перемещается вперед, назад и вверх.

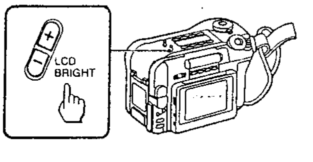
Регулировка яркости панели ЖКД [b]
Нажмите LCD BRIGHT.
Сторона +: для более яркого экрана ЖКД
Сторона –: для более тусклого экрана ЖКД

Вы можете встретить трудности при просмотре экрана ЖКД вследствие отблесков во время использования видеокамеры на улице. В таком случае используйте светозащитную бленду.

[a]



[b]



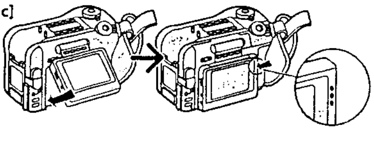
Camera recording

Запись с помощью видеокамеры

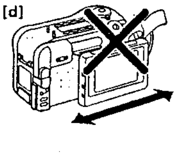
Notes on the LCD panel
- To put the LCD panel back into its flush position, move it straight back by pushing the upper right edge of the panel marked with the raised dots [c].
- When moving the LCD panel, do not move it sideways; otherwise, the camcorder body may be damaged or the LCD panel may not be stored properly [d].
- Do not push nor touch the LCD when moving the LCD panel.

Примечания к панели ЖКД
- Для установки панели ЖКД в прилегающее положение передвиньте ее прямо назад путем нажатия верхнего правого конца панели, помеченного восходящими точками [c].
- При перемещении панели ЖКД не двигайте ее вкось, или в противном случае корпус видеокамеры может быть поврежден или панель ЖКД может быть помещена неправильно [d].
- Не нажимайте и не трогайте ЖКД при перемещении панели ЖКД.

[c]



[d]

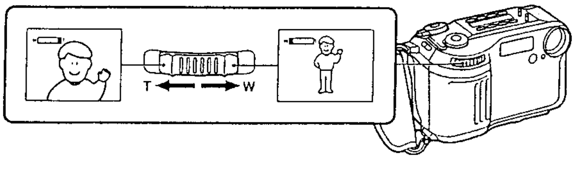


Using the zoom feature

Zooming is a recording technique that lets you change the size of the subject in the scene.
For more professional-looking recordings, use the zoom function sparingly.
"T" side: for telephoto (subject appears closer)
"W" side: for wide-angle (subject appears farther away)

Использование функции наезда видеокамеры

Наезд видеокамеры является техническим приемом записи, который позволяет Вам изменять размер объекта в кадре. Для более профессионального вида записей умеренно используйте функцию наезда видеокамеры.
Сторона "T": для телефото (объект приближается)
Сторона "W": для широкого угла съемки (объект удаляется)



Zooming speed (Variable speed zooming)

Move the power zoom lever a little for a relatively slow zoom; move it still more for a high-speed zoom.

When you shoot a subject using a telephoto zoom

If you cannot get a sharp focus while in extreme telephoto zoom, move the "W" side of the power zoom lever until the focus is sharp. You can shoot a subject that is at least about 100 cm (about 3 1/4 feet) away from the lens surface in the telephoto position, or about 1 cm (about 1/2 inch) away in the wide-angle position.

Notes on digital zoom

- More than 10x zoom is performed digitally, and the picture quality deteriorates as you go toward the "T" side. If you do not want to use the digital zoom, set the D ZOOM function to OFF in the menu system.
- The vertical bar in the power zoom indicator separates the optical zooming zone (left of the bar [a]) and the digital zooming zone (right of the bar [b]). If you set the D ZOOM function to OFF, the part to the right of the bar disappears.

Скорость наезда видеокамеры (наезд с различной скоростью)

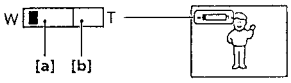
Передвиньте рычаг приводного трансфокатора немного для сравнительно медленного наезда видеокамеры; передвиньте его еще дальше для наезда на высокой скорости.

Когда Вы снимаете объект, используя наезд в режиме телефото

Если Вы не можете получить четкой фокусировки во время крайнего наезда в режиме телефото, перемещайте рычаг приводного трансфокатора в сторону "W" до тех пор, пока Вы не получите четкой фокусировки. Вы можете снимать объект, который по меньшей мере на 100 см (около 3 1/4 фута) удален от поверхности объектива в положении телефото, или удален приблизительно на 1 см (около 1/2 дюйма) в положении широкого угла.

Примечания к цифровому трансфокатору

- Трансфокатор более, чем 10x создан в цифровом исполнении, и качество изображения ухудшается по мере Вашего движения в сторону "T". Если Вы не хотите использовать цифровой трансфокатор, установите функцию D ZOOM в системе меню на OFF.
- Вертикальная полоса на индикаторе приводного трансфокатора разделяет зону оптической трансфокации (слева от полосы [a]) и зону цифровой трансфокации (справа от полосы) [b]). Если Вы установите функцию D ZOOM на OFF, то часть справа от полосы исчезнет.



Letting the subject monitor the shot

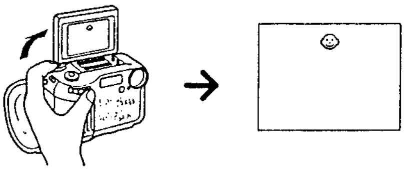
You can turn the LCD panel over so that it faces the other way and you can let the subject monitor the shot.

Turn the LCD panel up vertically. The ☺ indicator appears on the LCD screen (mirror mode) and the date, tape counter and remaining tape indicators disappear.
You can also use the Remote Commander.

Возможность для снимаемого человека наблюдать съемку

Вы можете перевернуть панель ЖКД, так, что она будет обращена в другую сторону и Вы можете позволить снимаемому человеку наблюдать съемку.

Поверните панель ЖКД вертикально вверх. Индикатор ☺ появится на экране ЖКД (зеркальный режим) и индикаторы даты, счетчика ленты и оствшейся ленты исчезнут. Вы также можете использовать пульт дистанционного управления.



To cancel mirror mode

Turn the LCD panel down toward the camcorder body.

Для отмены зеркального режима

Поверните панель ЖКД вниз в направлении корпуса камеры.

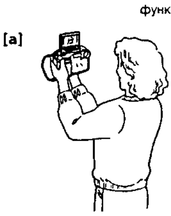
Notes on mirror mode

- When you turn the LCD panel 180 degrees, the camcorder enters mirror mode.
- Using the mirror mode, you can record yourself while watching yourself on the LCD screen [a].
- The picture on the LCD screen appears as a mirror-image while recording in mirror mode. **II●** appears in Standby mode, and ● during recording.
- The END SEARCH and FADER indicators appear as a mirror-image.
- "PICTURE EFFECT", "WIDE" and battery remaining time in minutes indications are not displayed.
- While recording in mirror mode, you cannot operate the following functions: MENU, TITLE, DATE, TIME.

Примечания к зеркальному режиму

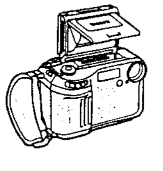
- Когда Вы поворачиваете панель ЖКД на 180 градусов, видеокамера входит в зеркальный режим.
- Используя зеркальный режим, Вы можете записать самого себя, смотря на самого себя на экране ЖКД [a].
- Изображение на экране ЖКД появляется в зеркальном отображении во время записи в зеркальном режиме. **II●** появляется в режиме готовности и ● во время записи.
- Индикаторы END SEARCH и FADER появляются, как зеркальные изображения.
- Индикации "PICTURE EFFECT", "WIDE" и оставшегося времени заряда батарейного блока в минутах появляться не будут.
- Во время записи в зеркальном режиме, Вы не можете использовать следующие функции: MENU, TITLE, DATE, TIME.

[a]



You can attach the sunshade upside down.

Вы можете прикрепить светозащитную бленду верхней стороной вниз.



Selecting the start/stop mode

Your camcorder has two modes besides normal start/stop mode. These modes enable you to take a series of quick shots resulting in a lively video.

(1) Set the START/STOP MODE switch to the desired mode.
 ꓘ : Recording starts when you press START/STOP and stops when you press it again (normal mode).
 ANTI GROUND SHOOTING ⊥ : The camcorder records only while you press down START/STOP.
 5SEC: When you press START/STOP, the camcorder records for 5 seconds and then stops automatically.
(2) Press START/STOP
 Recording starts.

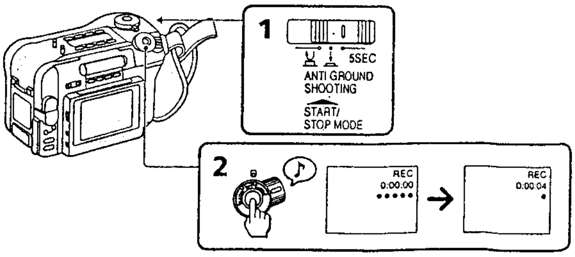
If you select 5SEC, five dots appear on the LCD screen. The dots disappear at a rate of one per second. When five seconds elapse and all the dots disappear, the camcorder switches to Standby mode automatically.

Выбор режима запуска/останова

Ваша видеокамера имеет еще два режима кроме обычного режима запуска/останова. Эти режимы позволяют Вам снять серию коротких кадров, создавая в результате оживленную видеопрограмму.

(1) Установите переключатель START/STOP MODE на желаемый режим.
 ꓘ: Запись начинается, когда Вы нажимаете START/STOP и останавливается, когда Вы нажимаете эту кнопку снова (нормальный режим).
 ANTI GROUND SHOOTING ⊥: Видеокамера производит запись, только когда Вы держите нажатой кнопку START/STOP.
 5SEC: Когда Вы нажимаете START/STOP, видеокамера производит запись в течение 5 секунд, а затем останавливается автоматически.
(2) Нажмите START/STOP.
 Запись начинается.

Если Вы выбираете 5SEC, пять точек появится на экране ЖКД. Точки исчезают со скоростью по одной за секунду. Когда пять секунд истечет и все точки исчезнут, видеокамера переключится на режим готовности автоматически.



Camera recording

Запись с помощью видеокамеры

To extend the recording time

Press START/STOP again before all the dots disappear. Recording continues for 5 seconds from the moment you press START/STOP.

To return to normal recording

Set START/STOP MODE to Ꭓ. If you set the switch while recording, recording continues.

Notes on 5 SEC and ⊥ mode
- You cannot use FADER function during 5-second or ⊥ recording.
- When you select 5 SEC, the remaining tape indicator is not displayed.

Fixing the focus momentarily

Use this function when the focus on the object you want to record is unstable. Press FOCUS LOCK with the desired object in focus while the camcorder is in Standby or recording mode. The focus is fixed while the 🔒 is displayed on the LCD screen.
Press FOCUS LOCK again to release this function.

Для продления времени записи

Нажмите START/STOP снова до того, как все точки исчезнут. Запись продолжается еще в течение 5 секунд с момента нажатия START/STOP.

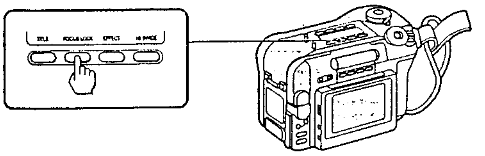
Для возвращения к нормальной записи

Установите переключатель START/STOP MODE в положение Ꭓ. Если Вы устанавливаете переключатель во время записи, запись продолжается.

Примечание к записи 5SEC и режиму ⊥
- Вы не можете использовать функцию FADER во время записи в режиме 5 секунд или ⊥.
- Когда Вы выбираете режим 5 SEC, индикатор оставшейся ленты отображаться не будет.

Фиксация фокусировки на мгновение

Используйте данную функцию, когда фокусировка на объект, который Вы хотите записать, будет нестабильной. Нажмите FOCUS LOCK, когда желаемый объект находится в фокусе, а видеокамера в режиме готовности или записи. Фокусировка будет зафиксирована, пока 🔒 отображается на экране ЖКД.
Нажмите FOCUS LOCK снова для выключения этой функции.



Camera recording

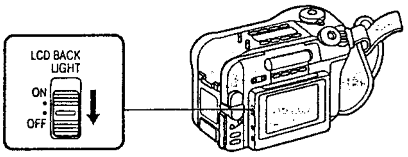
Запись с помощью видеокамеры

Recording in the light

When recording in the light such as under direct sunlight, and when you can view the LCD screen without turning on the back light, set the LCD BACK LIGHT switch to OFF. Then you can save the battery.

Запись при свете

Во время записи при свете, как например, под прямым солнечным светом и когда Вы смотрите на экран ЖКД без включения задней подсветски, установите переключатель LCD BACK LIGHT в положение OFF. Таким образом Вы сможете экономить заряд батарейного блока.



Continuous recording time when the LCD BACK LIGHT switch is set to OFF
The battery life during continuous recording is about 1.3 times as long as that when the LCD BACK LIGHT switch is set to ON.

Battery life

Battery pack	Continuous recording time
NP-F530 (supplied)	125 (115)

The number indicats the approximate time in minutes for fully charging an empty battery pack using the supplied AC power adaptor. The number in parentheses indicates the time for a normal charge.

Время непрерывной записи при установке переключателя LCD BACK LIGHT в положение OFF
Срок службы батарейного заряда во время непрерывной записи будет приблизительно в 1,3 раза дольше, чем при установке выключателя LCD BACK LIGHT в положение ON.

Срок службы батарейного заряда

Батарейный блок	Время непрерывной записи
NP-F530 (прилагается)	125 (115)

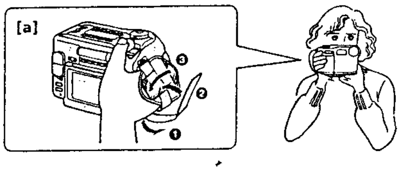
Число указывает приблизительное время в минутах для полностью заряженного батарейного блока с помощью сетевого адаптера переменного тока после его полной разрядки. Число в скобках указывает время для нормальной зарядки

Hints for better shooting

Советы для лучшей съемки

For hand-held shots, you will get better results by holding the camcorder according to the following suggestions:
- Hold the camcorder firmly and secure it with the grip strap so that you can easily manipulate the controls with your thumb. [a]

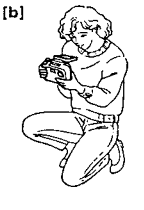
Для кадров при удержании видеокамеры в руках Вы получите лучшие результаты, если будете держать видеокамеру в соответствии со следующими рекомендациями:
- Держите видеокамеру крепко и закрепите ее с помощью ременного захвата так, чтобы Вы легко могли манипулировать регуляторами с помощью большого пальца. [a]



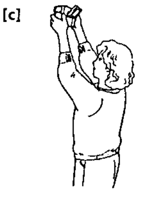
- Place your elbows against your side.
- Place your left hand under the camcorder to support it.
- Adjust the LCD panel angle.
- Keep your fingers away from the lens.
- Use the LCD panel frame as a guide to determine the horizontal plane.
- You can record in a low position to get an interesting recording angle. Lift the LCD panel up to record from a low position. [b]
- You can also record in a high position. Lift the LCD panel down to record from a high position. [c]

- Расположите Ваши локти по бокам от себя.
- Расположите Вашу левую руку под видеокамерой для ее поддержки.
- Отрегулируйте угол панели ЖКД.
- Держите Ваши пальцы подальше от объектива.
- Используйте визирную рамку панели ЖКД в качестве руководства для определения горизонтального плана.
- Вы можете записывать из низкого положения для получения интересного угла записи. Поднимите панель ЖКД вверх для записи из низкого положения [b]
- Вы можете также записывать из высокого положения. Поверните панель ЖКД вниз для записи из высокого положения. [c]

[b]



[c]



Hints for better shooting

Советы для лучшей съемки

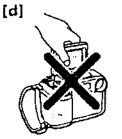
Place the camcorder on a flat surface or use a tripod
Try placing the camcorder on a table top or any other flat surface of suitable height. If you have a tripod for a still camera, you can also use it with the camcorder. When attaching a non-Sony tripod, make sure that the length of the tripod screw is less than 6.5 mm (9/32 inch). Otherwise, the screw may damage the inner parts of the camcorder.

Cautions on the LCD panel and the lens
- Do not pick up the camcorder by the LCD panel. [d]
- Do not place the camcorder so as to point the LCD screen and the lens toward the sun. The LCD panel and the lens may be damaged. Be careful when placing the camcorder under sunlight or by a window. [e]

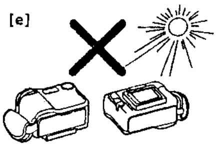
Располагайте видеокамеру на плоской поверхности или используйте треногу
Постарайтесь расположить видеокамеру сверху на столе или любой другой плоской поверхности подходящей высоты. Если у Вас есть тренога для фотоаппарата, Вы также можете использовать ее и для видеокамеры. При прикреплении треноги не фирмы Sony убедитесь, что длина винта треноги менее 6,5 мм (9/32 дюйма). В противном случае винт может повредить внутренние части видеокамеры.

Предосторожности к панели ЖКД и объективу
- Не поднимайте видеокамеру за панель ЖКД. [d]
- Не распологайте видеокамеру так, чтобы экран ЖКД и объектив были направлены в сторону солнца. Панель ЖКД и объектив могут быть повреждены. Будьте осторожны при расположении видеокамеры под солнцем или возле окна. [e]

[d]



[e]



Playing back a tape

Воспроизведение ленты

You can monitor the playback picture on the LCD screen.

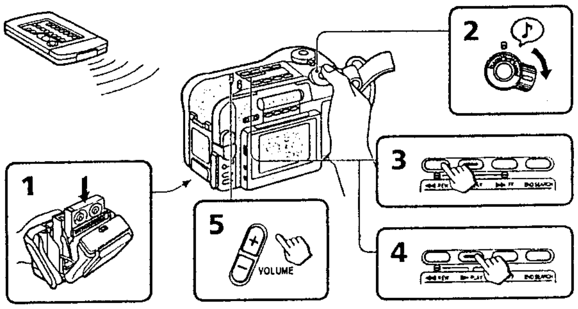
(1) Insert the recorded tape with the window facing out.
(2) While pressing the small green button on the POWER switch, set it to PLAYER. The display for operation buttons appears.
(3) Press ◀◀ to rewind the tape.
(4) Press ▶ to start playback.
(5) Adjust the volume using VOLUME.

You can also monitor the picture on a TV screen, after connecting the camcorder to a TV or VCR.

Вы можете просматривать воспроизводимое изображение на экране ЖКД.

(1) Вставьте записанную ленту с окошком, обращенным наружу.
(2) Нажимая маленькую зеленую кнопку на выключателе POWER, установите его в положение PLAYER. Появляется дисплей для рабочих кнопок.
(3) Нажмите ◀◀ для перемотки ленты назад.
(4) Нажмите ▶ для начала воспроизведения.
(5) Отрегулируйе громкость с использованием VOLUME.

Вы можете также просмотреть изображение на экране телевизора после подсоединения видеокамеры к телевизору или КВМ.



To stop playback, press ■.
To rewind the tape, press ◀◀.
To fast-forward the tape rapidly, press ▶▶.
To adjust the brightness of the LCD screen, press LCD BRIGHT.

Для останова воспроизведения, нажмите ■.
Для ускоренной перемотки ленты назад, нажмите ◀◀.
Для ускоренной перемотки ленты вперед, нажмите ▶▶.
Для регулировки яркости экрана ЖКД, нажмите LCD BRIGHT.

Playing back a tape

Воспроизведение ленты

Using the Remote Commander

You can control playback using the supplied Remote Commander. Before using the Remote Commander, insert the R6 (size AA) batteries .

Note on DISPLAY button

Press DISPLAY on the Remote Commander to display the screen indicators on the LCD screen. To erase the indicators, press again.

Using headphones

Connect headphones (not supplied) to the ∩ jack (p. 100). You can adjust the volume of the headphones using VOLUME.

Использование пульта дистанционного управления

Вы можете управлять воспроизведением с помощью прилагаемого пульта дистанционного управления. Перед использованием пульта дистанционного управления вставьте в него батарейки R6 (размером AA).

Примечание к кнопке DISPLAY

Нажмите DISPLAY на пульте дистанционного управления для отображения экранных индикаторов на экране ЖКД. Для стирания индикаторов нажмите еще раз.

Использование головных телефонов

Подсоедините головные телефоны (не прилагаются) к гнезду ∩ (стр. 100). Вы сможете регулировать громкость головных телефонов с помощью VOLUME.

Playing back a tape

Воспроизведение ленты

Various playback modes

You can enjoy noiseless pictures on the LCD screen during still, slow and picture search. (Crystal-clear still/slow/picture search)

To view a still picture (playback pause)

Press II during playback. To resume playback, press II or ▶.

To locate a scene (picture search)

Keep pressing ◀◀ or ▶▶ during playback. To resume normal playback, release the button.

To monitor the high-speed picture while advancing the tape or rewinding (skip scan)

Keep pressing ◀◀ while rewinding or ▶▶ while advancing the tape. To resume normal rewinding or fast-forward, release the button.

To view the picture at 1/5 speed (slow playback)

Press I▶ on the Remote Commander during playback. To resume normal playback, press ▶. If slow playback lasts for about 1 minute, it shifts to normal speed automatically.

To change the playback direction

Press ◀II/< on the Remote Commander for reverse direction or >/II▶ on the Remote Commander for forward direction during playback. To resume normal playback, press ▶.

Различные режимы воспроизведения

Вы можете наслаждаться свободными от помех изображениями на экране ЖКД во время стоп-кадра, замедленного воспроизведения и поиска изображения. (Кристально чистые стоп-кадр/замедленное воспроизведение/поиск изображения)

Для просмотра неподвижного изображения (пауза воспроизведения)

Нажмите II во время воспроизведения. Для восстановления воспроизведения нажмите II или ▶.

Для обнаружения фрагмента (поиск изображения)

Держите нажатой кнопку ◀◀ или ▶▶ во время воспроизведения. Для восстановления нормального воспроизведения отпустите кнопку.

Для контроля изображения на высокой скорости во время ускоренной перемотки ленты вперед или назад (поиск методом прогона)

Держите нажатой кнопку ◀◀ во время перемотки ленты назад или кнопку ▶▶ во время перемотки ленты вперед. Для восстановления нормальной перемотки вперед или назад отпустите кнопку.

Для просмотра изображения на 1/5 скорости (замедленное воспроизведение)

Нажмите I▶ на пульте дистанционного управления во время воспроизведения. Для восстановления нормального воспроизведения нажмите ▶. Если замедленное воспроизведение продолжается приблизительно 1 минуту, то оно переключится на нормальную скорость автоматически.

Для изменения направления воспроизедения

Нажмите ◀II/< на пульте дистанционного управления для обратного направления или нажмите >/II▶ на пульте дистанционного управления для направления вперед во время воспроизведения. Для восстановления нормального воспроизведения нажмите ▶.

Playing back a tape

Воспроизведение ленты

Notes on playback

- Streaks appear and the sound is muted in the various playback modes.
- When playback pause mode lasts for 5 minutes, the camcorder automatically enters stop mode.
- Horizontal noise appears at the centre of the screen when you play back a tape in reverse if the RC time code or the Data Code is displayed on the screen. This is normal.

Displaying the date or time when you recorded – data code function

Even if you did not record the date or time when you were recording, you can display the date or time when you recorded (Data Code) on the TV during playback or editing. The Data Code is also displayed on the LCD screen.

To display the date when you recorded

Press DATE on the camcorder [a], or press DATA CODE on the Remote Commander [b]. To make the date disappear, press DATE again or DATA CODE twice.

To display the time when you recorded

Press TIME on the camcorder [a], or press DATA CODE on the Remote Commander twice [b]. To make the time disappear, press it again.

Примечания к воспроизведению

- "Тянучки" появляются и звук будет приглушен в различных режимах воспроизедения.
- Если режим паузы воспроизведения продолжается в течение 5 минут, видеокамера автоматически войдет в режим останова.
- Горизонтальные помехи появляются в центре экрана, когда Вы воспроизводите ленту в обратном направлении, если временной код RC или код данных отображается на экране. Это является нормальным.

Отображение даты или времени Вашей записи – функция кода данных

Даже если Вы не записали дату или время, когда Вы выполняли запись, Вы можете отобразить дату или время, когда выполнялась запись (код данных), на экране телевизора во время воспроизведения или монтажа. Код данных также отображается на экране ЖКД.

Для отображения даты Вашей записи

Нажмите DATE на видеокамере [a], или нажмите DATA CODE на пульте дистанционного управления [b]. Для того, чтобы дата исчезла, снова нажмите DATE или дважды DATA CODE.

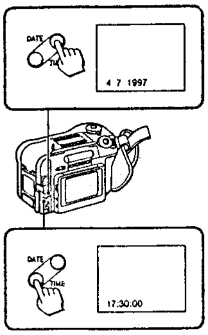
Для отображения времени Вашей записи

Нажмите TIME на видеокамере [a], или дважды нажмите DATA CODE на пульте дистанционного управления [b]. Для того, чтобы время исчезло, нажмите кнопку опять.

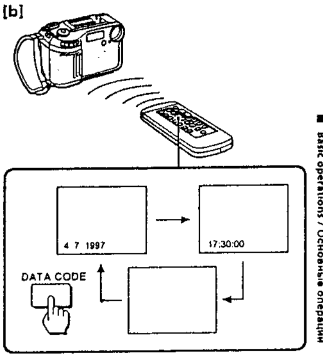
Playing back a tape

Воспроизведение ленты

[a]



[b]



When bars (--:--:--) appear
- A blank portion of the tape is being played back.
- The tape was recorded by a camcorder without the Data Code function.
- The tape was recorded by a camcorder without having date and time set.
- The tape is unreadable due to tape damage or noise.
- An index is marked, the RC time code is written, or PCM after recording is made on the tape.

Если появляются черточки (--:--:--)
- Воспроизводится незаписанная часть ленты.
- Лента была записана на видеокамере без функции кода данных.
- Лента была записана на видеокамере без установки даты и времени.
- Лента не может быть воспроизведена из-за повреждения ленты или помех.
- Был отмечен индексный сигнал, записан временной код RC или PCM после выполнения записи на ленте.

Searching for the end of the picture

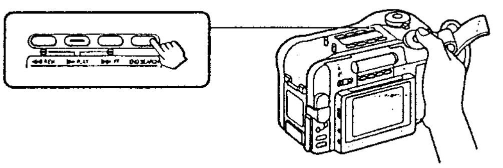
Поиск конца изображения

You can go to the end of the recorded portion after you record and play back the tape. The tape starts rewinding or fast-forwarding and the last 5 seconds (SP mode) or 10 seconds (LP mode) of the recorded portion plays back. Then the tape stops at the end of the recorded picture (End Search).
Note that End Search function does not work once you have ejected the cassette after you recorded on it.

Press END SEARCH.
This function works when the POWER switch is set to either CAMERA or PLAYER.

Вы можете перейти к концу записанной части после записи и воспроизведения ленты. Лента начинает перематываться назад или вперед, и последние 5 секунд (режим SP) или 10 секунд (режим LP) записанной части будут воспроизведены. Затем лента остановится в конце записанного изображения (поиск конца).
Заметьте, что функция поиска конца не работает, если Вы вытолкнули кассету после выполнения записи на нее.

Нажмите END SEARCH.
Данная функция работает, когда выключатель POWER установлен либо в положение CAMERA, либо в положение PLAYER.



Note on the End Search function
When you re-record continuously after using the End Search function, you might not be able to obtain smooth transition between the last scene and the next scene.

Примечание к функции поиска конца
Если Вы снова выполняете запись без перерыва после использования функции поиска конца, то Вы можете не получить плавного перехода между последней сценой и следующей сценой.

Using alternative power sources

You can choose any of the following power sources for your camcorder: battery pack, mains, and 12/24 V car battery. Choose the appropriate power source depending on where you want to use your camcorder.

Place	Power source	Accessory to be used
Indoors	Mains	Supplied AC power adaptor
Outdoors	Battery pack	Battery pack NP-F530 (supplied)
In the car	12 V or 24 V car battery	Sony car battery charger DC-V515

Note on power sources
Disconnecting the power source or removing the battery pack during recording or playback may damage the inserted tape. If this happens, restore the power supply again immediately.

Using the mains

To use the supplied AC power adaptor:
(1) Connect the connecting plug on the camcorder to the DC OUT jack on the AC power adaptor using the supplied connecting cord.
(2) Connect the mains lead to the AC power adaptor.
(3) Connect the AC power cord to mains.

Использование альтернативных источников питания

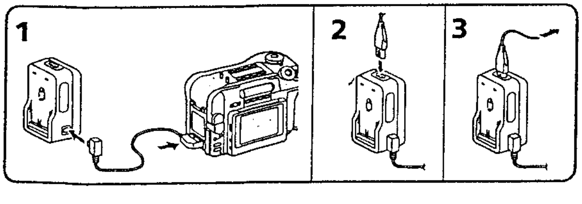
Вы можете выбрать любой из следующих источников питания для Вашей видеокамеры: батарейный блок, электрическую сеть и 12/24 В автомобильный аккумулятор. Выберите подходящий источник питания в зависимости от того, где Вы хотите использовать Вашу видеокамеру.

Место	Источник питания	Используемые принадлежности
В помещении	Электрическая сеть	Прилагаемый сетевой адаптер перем. тока
На улице	Батарейный блок	Батарейный блок NP-F530 (прилагается)
В автомобиле	12 В или 24 В автомобильный аккумулятор	Зарядный выпрямитель автомобильного аккумулятора Sony DC-V515

Примечание по источникам питания
Отсоединение источника питания или снятие батарейного блока во время записи или воспроизведения может повредить вставленную ленту. Если это случится, восстановите источник питания немедленно.

Использование электрической сети

Для использования сетевого адаптера перем. тока:
(1) Подсоедините соединительный разъем на видеокамере к гнезду DC OUT на сетевом адаптере перем. тока с использованием прилагаемого соединительного шнура.
(2) Подсоедините сетевой провод к сетевому адаптеру перем. тока.
(3) Подсоедините сетевой шнур перем . тока к электрической сети.



Using alternative power sources

Использование альтернативных источников питания

Charging the battery pack
You can charge the battery pack installed in the camcorder by connecting the AC power adaptor to the camcorder and setting the POWER switch to OFF. Charging time of the supplied NP-F530 battery pack is as follows:
Full charge: approx. 3 hours and 30 minutes
Normal charge: approx. 2 hours and 30 minutes

Charging two battery packs at the same time
Install one battery pack in the camcorder and another one on the AC power adaptor. The CHARGE lamps on the camcorder and on the AC power adaptor light up, and go out when normal charge is completed. If either of the CHARGE lamps remains lit, charging both battery packs is not completed. Time taken to charge two NP-F530 battery packs simultaneously is as follows:
Full charge: approx. 4 hours
Normal charge: approx. 3 hours

Notes on the CHARGE lamp
- The CHARGE lamp will remain lit for a while even if the unit is unplugged after use. This is normal.
- If the CHARGE lamp does not light, disconnect the AC power adaptor. After about one minute, reconnect the AC power adaptor.

To remove the connecting cord
While pressing the button on the connecting plug, pull out the connecting cord. Never pull the connecting cord itself.
When you use the AC power with the connecting cord, the battery pack installed in the camcorder is not used because the AC power has priority over the battery pack.

Зарядка батарейного блока
Вы можете заряжать установленный на камере батарейный блок путем подсоединения сетевого адаптера перем. тока к видеокамере и установки выключателя POWER в положение OFF. Время зарядки прилагаемого батарейного блока NP-F530 будет следующим:
Полная зарядка: приблиз. 3 часа 30 минут
Нормальная зарядка: приблиз. 2 часа 30 минут

Зарядка двух батарейных блоков одновременно
Установите один батарейный блок в видеокамеру, а второй на сетевой адаптер перем. тока. Лампочки CHARGE на видеокамере и на сетевом адаптере перем. тока будут гореть и погаснут, когда нормальная зарядка будет завершена. Если одна из двух лампочек CHARGE остается гореть, то зарядка обоих батарейных блоков не завершена. Время для зарядки двух батарейных блоков NP-F530 будет следующим:
Полная зарядка: приблиз 4 часа
Нормальная зарядка: приблиз 3 часа

Примечания к лампочке CHARGE
- Лампочка CHARGE будет оставаться горящей еще в течение некоторого времени, даже если аппарат отсоединен от сети после использования. Это является нормальным.
- Если лампочка CHARGE не горит, отсоедините сетевой адаптер перем. тока. Приблизительно через одну минуту снова подсоедините сетевой адаптер. перем. тока.

Для снятия соединительного шнура
Нажимая кнопку на соединительном разъеме, вытащите соединительный шнур. Никогда не тяните за сам шнур.
Когда Вы используете сетевой адаптер перем. тока вместе с соединительным шнуром, батарейный блок, установленный в видеокамере не будет использоваться, так как сетевой адаптер перем. тока имеет приоритет перед батарейным блоком.

Using alternative power sources

WARNING
The mains lead must only be changed at a qualified service shop.

PRECAUTION
The set is not disconnected from the AC power source (mains) as long as it is connected to the mains, even if the set itself has been turned off.

Using a car battery

Use a car battery charger such as Sony DC-V515 (not supplied). Connect the car battery cord to the cigarette lighter socket of a car (12 V or 24 V). Connect the car battery charger and the camcorder using the supplied DK-626 connecting cord.

This mark indicates that this product is a genuine accessory for Sony video product.
When purchasing Sony video products, Sony recommends that you purchase accessories with this "GENUINE VIDEO ACCESSORIES" mark.

Использование альтернативных источников питания

ПРЕДУПРЕЖДЕНИЕ
Сетевой провод должен быть заменен только в мастерской квалифицированного обслуживания.

ПРЕДОСТЕРЕЖЕНИЕ
Аппарат не отключается от источника питания перем. тока (электрической сети) до тех пор, пока он подключен к электрической сети, даже если сам аппарат выключен.

Использование автомобильного аккумулятора

Используйте зарядный выпрямитель аккумуляторной батареи, как например, Sony DC-V515 (не прилагается). Подсоедините шнур автомобильного аккумулятора к гнезду сигаретного прикуривателя автомобиля (12 В или 24 В). Соедините зарядный выпрямитель автомобильного аккумулятора и видеокамеру, используя прилагаемый соединительный шнур DK-626.

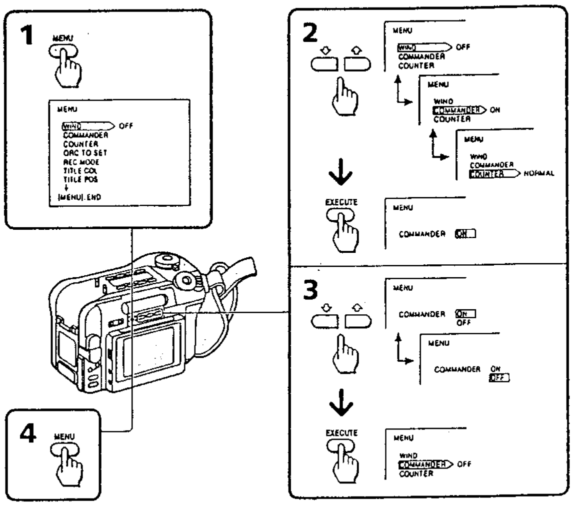
Настоящий знак указывает, что данная продукция является подлинной принадлежностью видеопродукции Sony. Если Вы покупаете видеопродукцию Sony, то мы рекомендуем, чтобы Вы покупали принадлежности, помеченные знаком "GENUINE VIDEO ACCESSORIES".

Changing the mode settings

You can change the mode settings in the menu system to further enjoy the features and functions of the camcorder.
(1) Press MENU to display the menu on the LCD screen.
(2) Press ↓ or ↑ to select the desired item, then press EXECUTE. Only the selected item is displayed.
(3) Press ↓ or ↑ to select the desired mode, then press EXECUTE. If you want to change the other modes, repeat steps 2 and 3.
(4) Press MENU to erase the menu display.

Изменение установок режимов

Вы можете изменять установки режимов в системе меню для большего наслаждения особенностями и функциями видеокамеры.
(1) Нажмите MENU для отображения меню на экране ЖКД.
(2) Нажмите ↓ или ↑ для выбора желаемой установки, а затем нажмите EXECUTE. Будет отображаться только выбранная установка.
(3) Нажмите ↓ или ↑ для выбора желаемого режима а затем нажмите EXECUTE. Если Вы хотите изменить другие режимы, повторите пункты 2 и 3.
(4) Нажмите MENU для стирания дисплея меню.



Changing the mode settings

Notes on changing the mode settings
- Menu items differs depending on the setting of the POWER switch to PLAYER or CAMERA.
- When you let the subject monitor the shot, the menu display does not appear.

Selecting the mode setting of each item

Items for both CAMERA and PLAYER modes

COUNTER* <NORMAL/TIME CODE>
- Normally select NORMAL.
- Select TIME CODE to display the RC time code in order to edit more precisely.

COMMANDER <ON/OFF>
- Select ON when using the supplied Remote Commander for the camcorder.
- Select OFF when not using the Remote Commander.

BEEP* <ON/OFF>
- Select ON so that beeps sound when you start/stop recording, etc.
- Select OFF when you do not want to hear the beep sound.

LCD COLOUR*
Select this item and change the level of the indicator by pressing ↓ or ↑ to adjust the colour intensity of the picture.

Изменение установок режимов

Примечания к изменению установок режимов
- Установки меню отличаются в зависмости от нахождения выключателя POWER в положении PLAYER или CAMERA.
- Когда Вы даете снимаемому человеку наблюдать съемку, дисплей меню появляться не будет.

Выбор режима каждой установки

Установки для режимов и CAMERA и PLAYER

COUNTER* <NORMAL/TIME CODE>
- Обычно выбирайте NORMAL.
- Выберите TIME CODE для отображения временного кода RC для более точного монтажа.

COMMANDER <ON/OFF>
- Выбирайте ON при использовании прилагаемого к видеокамере пульта дистанционного управления.
- Выберите OFF, если пульт дистанционного управления не используется.

BEEP* <ON/OFF>
- Выберите ON, чтобы зуммерные сигналы звучали, когда Вы начинаете/останавливаете запись и т.д.
- Выберите OFF, если Вы не хотите слышать зуммерный звуковой сигнал.

LCD COLOUR*
Выберите данную установку и измените уровень индикатора путем нажатия ↓ или ↑ для регулировки яркости цвета изображения.

Changing the mode settings

LCD B.L.* <BRT NORMAL/BRIGHT>
- Normally select BRT NORMAL.
- Select BRIGHT when the LCD screen is dark.

When you select BRIGHT, battery life is about 10 percent shorter during recording.
When you use the power sources other than the battery pack, BRIGHT is automatically selected, and LCD B.L. is not displayed in the menu.
When the LCD BACK LIGHT switch is set to OFF, the brightness of the LCD does not change even if LCD B.L. is changed in the menu system.

Items for CAMERA mode only

WIND <ON/OFF>
- Select ON to reduce wind noise when recording in strong wind.
- Normally select OFF.

D ZOOM* <ON/OFF>
- Select ON to activate digital zooming.
- Select OFF not to use the digital zoom. The camcorder goes back to 10x optical zoom.

REC LAMP* <ON/OFF>
- Select OFF when you do not want the camera recording/battery lamp at the front of the unit to light up.
- Normally select ON.

When recording a close subject
When REC LAMP is set to ON, the red camera recording lamp on the front of the camcorder may reflect on the subject if it is close. In this case, we recommend you set REC LAMP to OFF.

CLOCK SET*
Select this item to reset the date or time.

ORC TO SET*
Select this item to automatically adjust the recording condition of the tape to get the best possible recording.
If you have already performed this function, "ORC ON" is displayed.

Изменение устновок режимов

LCD B.L.* <BRT NORMAL/BRIGHT>
- Обычно выбирайте BRT NORMAL.
- Выберите BRIGHT, если экран ЖКД будет темный.

Если Вы выбираете BRIGHT, срок службы заряда батарейного блока будет приблизительно на 10 процентов короче во время записи.
Если Вы используете источник питания отличный от батарейного блока, BRIGHT выбирается автоматически и установка LCD B.L. не отображается в меню.
Если переключатель LCD BACK LIGHT установлен в положение OFF, яркость ЖКД не изменяется, даже когда установка LCD B.L. будет изменена в системе меню.

Установки только для режима CAMERA

WIND <ON/OFF>
- Выберите ON для понижения шума ветра при записи на сильном ветру.
- Обычно выбирайте OFF.

D ZOOM* <ON/OFF>
- Выберите ON для активизации цифровой трансфокации.
- Выберите OFF при неиспользовании цифровой трансфокации. Видеокамера возвращается к оптической трансфокации 10x.

REC LAMP* <ON/OFF>
- Выберите OFF, если Вы не хотите, чтобы загоралась лампочка записи камерой/батареи на передней панели аппарата.
- Обычно выбирайте ON.

При записи близко расположенного объекта
Когда установка REC LAMP установлена на ON, красная лампочка записи камерой на передней панели видеокамеры может оказывать отражние на близко расположенный объект. В таком случае мы рекомендуем Вам установить REC LAMP на OFF.

CLOCK SET*
Выберите эту установку для переустановки даты и времени.

ORC TO SET*
Выберите данную устновку для автоматической регулировки условий записи ленты для получения по возможности наилучшей записи.
Если Вы уже задействовали эту функцию, то будет отображаться "ORC ON".

Changing the mode settings

REC MODE* <SP/LP>
- Select SP when recording in SP (standard play) mode.
- Select LP when recording in LP (long play) mode.

TITLE COL* <WHITE/YELLOW/VIOLET/RED/CYAN/GREEN/BLUE>
Select the colour of the title.

TITLE POS* <CENTER/BOTTOM>
- Select CENTER to centre the title in the picture.
- Select BOTTOM to position the title at the bottom of the picture.

TITLE LANG* <ENGLISH/FRANÇAIS/ESPAÑOL/PORTUGUÊS/DEUTSCH/NEDERLANDS/ITALIANO>
Select the language of the preset titles.

TITLE1 SET*/TITLE2 SET*
Store your own titles.

STEADYSHOT* <ON/OFF>
- Normally select ON.
- Select OFF when you do not have to worry about camera-shake.

Items for PLAYER mode only

EDIT <ON/OFF>
- Select ON to minimize picture deterioration when editing.
- Normally select OFF.

HiFi SOUND <STEREO/1/2>
- Normally select STEREO.
- Select 1 or 2 to play back a dual soundtrack tape.

NTSC PB* <ON PAL TV/NTSC 4.43>
- Normally select ON PAL TV.
- Select NTSC 4.43 to adjust the hue of the picture when playing back a tape recorded in the NTSC colour system on a multi-system TV. If you cannot obtain the result you want, select the appropriate TV colour system mode on your TV.

Изменение устновок режимов

REC MODE* <SP/LP>
- Выберите SP при записи в режиме SP (стандартного воспроизведения).
- Выберите LP при записи в режиме LP (удлиненного воспроизведения).

TITLE COL* <WHITE/YELLOW/VIOLET/RED/CYAN/GREEN/BLUE>
Выберите цвет надписи.

TITLE POS* <CENTER/BOTTOM>
- Выберите CENTER для установки надписи в центр изображения.
- Выберите BOTTOM для расположения надписи внизу изображения.

TITLE LANG* <ENGLISH/FRANÇAIS/ESPAÑOL/PORTUGUÊS/DEUTSCH/NEDERLANDS/ITALIANO>
Выберите язык предварительно установленных титров.

TITLE1 SET*/TITLE2 SET*
Запоминание Ваших собственных надписей.

STEADYSHOT* <ON/OFF>
- Обычно выбирайте ON.
- Выберите OFF, когда Вам не нужно переживаеть о дрожании камеры.

Установки только для режима PLAYER

EDIT <ON/OFF>
- Выберите ON для сведения помех к минимуму во время монтажа.
- Обычно выбирайте OFF.

HIFI SOUND <STEREO/1/2>
- Обычно выбирайте STEREO.
- Выберите 1 или 2 для воспроизведения ленты с двойной звуковой дорожкой.

NTSC PB* <ON PAL TV/NTSC 4.43>
- Обычно вибирайте ON PAL TV.
- Выберите NTSC4.43 для регулировки цветового тона изображения при воспроизведении ленты, записанной в системе цветного телевидения NTSC, на мультисистемном телевизоре. Если Вы не можеҭе получить желаемый результат, то выберите подходящий режим системы цветного телевидения на Вашем телевизоре.

Changing the mode settings

TBC* <ON/OFF>
- Normally select ON, to correct for jitter.
- Select OFF to not correct for jitter. The picture may not be steady when played back.

Note on TBC setting
Set TBC to OFF when playing back
- A tape recorded when the camcorder was shaking.
- A tape on which you recorded a low quality TV signal.
- A tape you have dubbed over.
- A tape on which you recorded the signal of a TV game or similar machine.

DNR* <ON/OFF>
- Normally select ON to reduce picture noise.
- Select OFF if the picture has a lot of movement, causing a conspicuous afterimage.

* These settings are retained even when the battery is removed, as long as the vanadium-lithium battery is charged. As far as the items without an asterisk are concerned, their settings return to the default 5 minutes or more after the battery is removed.

Изменение устновок режимов

TBC* <ON/OFF>
- Обычно выбирайте ON для коррекции дрожания.
- Выберите OFF для отмены коррекции. Изображение может быть не устойчивым при воспроизведении.

Примечания к установке TBC
Установите TBC на OFF, если вопспроизводится:
- Лента записанная при сильном дрожании видеокамеры.
- Лента, на которую Вы записали телевизионные сигналы низкого качества.
- Лента которую Вы перезаписали.
- Лента, на которую Вы записали сигналы телеигры или подобного компьютерного устройства.

DNR* <ON/OFF>
- Обычно выбирайте ON для снижения помех на изображении.
- Выберите OFF, если изображение содержит множество движений, вызывая заметные послеизображения.

* Эти установки остаются даже при снятии батарейного блока до тех пор, пока заряжена ванадиево-литиевая батарейка. Что касается устновок без звездочки, то они возвращаются к исходному состоянию через 5 минут или более после снятия батарейного блока.

Recording with the date or time

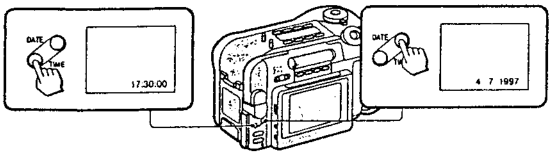
Before you start recording or during recording, press DATE or TIME. You can record the date or time displayed on the LCD screen with the picture. You cannot record the date and the time at the same time. Except for the date or time indicator, no indicator on the LCD screen is recorded.
The clock is set at the factory to London time for United Kingdom and to Paris time for the other European countries. You can reset the clock in the menu system.

Press DATE or TIME before you start recording.

Запись с датой или временем

Перед началом записи нажмите DATE или TIME. Вы можете записывать дату или время, отображаемые на экране ЖКД вместе с изображением. Вы не можете записывать дату и время одновременно. Кроме индикатора даты или времени, никакие индикаторы, отображаемые на экране ЖКД, записываться не будут. Заводская установка часов соответствует лондонскому времени для Объединенного Королевства и парижскому времени для других европейских стран. Вы можете заново установить часы в системе меню.

Нажмите DATE или TIME перед тем, как Вы начнете запись.



Notes on recording with the date or time
- You cannot record the date and the time at the same time.
- You cannot record a title and the date at the same time.
- You cannot record a title and the time at the same time.
- Once you record the date or time, you cannot erase it.

During recording in WIDE CINEMA mode
When displaying the date or time, the date/time and remaining battery indicator slide up.

To stop recording with the date or time

Press DATE or TIME again. The date or time indicator disappears. The recording continues.

Примечания к записи с датой или временем
- Вы не можете записывать дату и время одновременно.
- Вы не можете записывать надпись и дату одновременно.
- Вы не можете записывать надпись и время одновременно.
- Если Вы записали дату или время Вы не сможете стереть их.

Во время записи в режиме WIDE CINEMA
Когда отображается дата или время индикаторы даты/времени и оставшегося заряда батрейного блока будут сдвинуты вверх.

Для останова записи с датой или временем

Нажмитҿ DATE или TIME снова. Индикатор даты или времени исчезнет. Запись будет продолжена.

Fade-in and fade-out

You can fade in or out to give your recording a professional appearance.
When fading in, the picture gradually fades in from black or mosaic while the sound increases. When fading out, the picture gradually fades to black or mosaic while the sound decreases.

When fading in [a]

(1) While the camcorder is in Standby mode, press FADER. The fade indicator starts flashing.
(2) Press START/STOP to start recording. The fade indicator stops flashing.

When fading out [b]

(1) During recording, press FADER. The fade indicator starts flashing.
(2) Press START/STOP to stop recording. The fade indicator stops flashing, and then recording stops.

Введение и выведение изображения

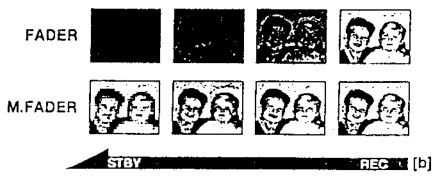
Вы можете плавно вводить и выводить изображение. придавая Вашей записи профессиональный вид.
При введении изображение постепенно вводится от черного или мозаичного с одновременным повышением звука. При выведении изображение постепенно выводится до черного или мозаиченого с одновременным понижением звука.

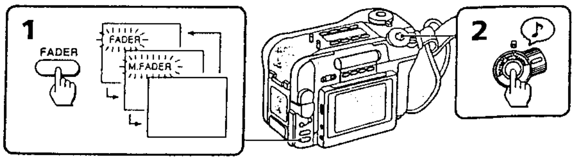
Для введения изображения [a]

(1) Когда видеокамера находится в режиме готовности нажмите FADER. Индикатор введения начинает мигать.
(2) Нажмите START/STOP для начала записи. Индикатор введения перестает мигать.

Для выведения изображения [b]

(1) Во время записи нажмите FADER. Индикатор введения начинает мигать.
(2) Нажмите START/STOP для останова записи. Индикатор введения перестает мигать и запись останавливается.





Fade-in and fade-out

Введение и выведение изображения

To cancel the fade-in/fade-out function
Before pressing START/STOP, press FADER until the fade indicator disappears.

When the date or time indicator is displayed
The date or time indicator does not fade in or out.

When the START/STOP MODE control is set to ⊥ or 5SEC
You cannot use the fade-in/fade-out function.

Notes on titles
- While fading in or fading out, you cannot superimpose a title.
- While a title is displayed, the picture does not fade in or out.

Для отмены функции введения/выведения изображения
Перед нажатием START/STOP нажимайте FADER до тех пор, пока индикатор введения не исчезнет.

Когда отображается индикатор даты или времени.
Индикатор даты или времени плавно не вводится и не выводится.

Когда регулятор START/STOP MODE установлен в положение ⊥ или 5SEC
Вы не сможете использовать функцию введения/выведения изображения.

Примечания к надписям
- Во время введения или выведения изображения Вы не сможете наложить надпись.
- Во время отображения надписи изображение плавно не вводится и не выводится.

Enjoying picture effect

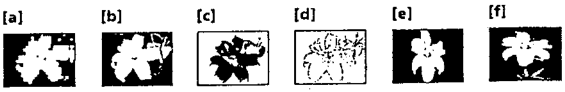
Наслаждение эффектами изображения

Selecting picture effect

Выбор эффекта изображения

You can make pictures like those of television with the Picture Effect function.

Вы можете сделать изображение похожим на те, что передают по телевидению с помощью функции эффектов изображения.



MOSAIC [a]
The picture is mosaic.

SOLARIZE [b]
The light intensity is clearer, and the picture looks like an illustration.

B&W
The picture is monochrome (black and white).

SEPIA
The picture is sepia.

NEG. ART [c]
The colour of the picture is reversed.

PASTEL [d]
The picture is in pastel tones.

SLIM [e]
The picture expands vertically.

STRETCH [f]
The picture expands horizontally.

MOSAIC [a]
Изображение будет мозаичным.

SOLARIZE [b]
Яркость света будет более ясной, и изображение будет выглядеть, как иллюстрация.

B&W
Изображение будет монохроматическим (черно-белым).

SEPIA
Изображение будет в цвете сепия.

NEG. ART [c]
Цвет изображения будет негативным.

PASTEL [d]
Изображение будет в мягких тонах.

SLIM [e]
Изображение расширяется по вертикали.

STRETCH [f]
Изображение расширяется по горизонтали.

Enjoying picture effect

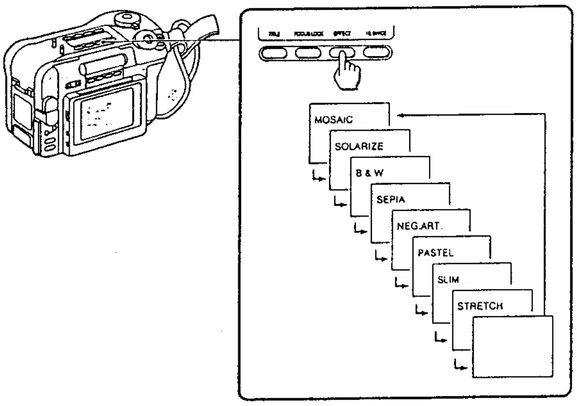
Наслаждение эффектами изображения

Using picture effect function

Использование функции эффектов изображения

While in Standby mode, press EFFECT to select the desired Picture Effect mode.

В режиме готовности нажмите EFFECT для выбора желаемого режима эффекта изображения.



Returning to normal mode
Press EFFECT repeatedly until the Picture Effect indicator disappears.

Note on the picture effect
When you turn the power off, the camcorder returns automatically to normal mode.

Возврат к нормальному режиму
Неоднократно нажимайте EFFECT до тех пор, пока не исчезнет индикатор эффекта изображения.

Примечание к эффектам изображения
Когда Вы выключаете питание, видеокамера автоматически возвращается к нормальному режиму.

Using the wide mode function

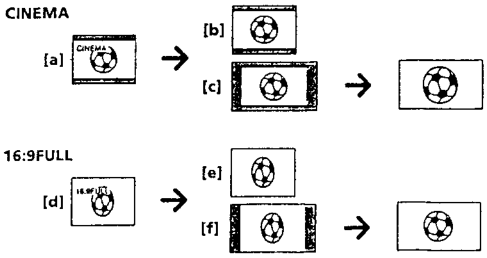
Использование функции широкоформатного режима

Selecting the desired mode

Выбор желаемого режима

You can record a cinemalike picture (CINEMA) or a 16:9 wide picture to watch on the 16:9 wide-screen TV (16:9FULL).

Вы можете записывать изображение как в кинотеатре (CINEMA) или широкоформатное изображение 16:9 для просмотра на широкоэкранном телевизоре 16:9 (16:9FULL).



CINEMA
Black bands appear at the top and the bottom of the screen, and the LCD screen [a] and a normal TV screen [b] look wide. You can also watch the picture without black bands on a wide-screen TV [c].

16:9FULL
The picture on the LCD screen [d] or on a normal TV [e] is horizontally compressed. You can watch the picture of normal images on a wide-screen TV [f].

CINEMA
Черные полосы появляются сверху и снизу экрана, и экран ЖКД [a] и нормальный экран телевизора [b] выглядят широкими. Вы также можете просмотреть изображение без черных полос на широкоэкранном телевизоре [c].

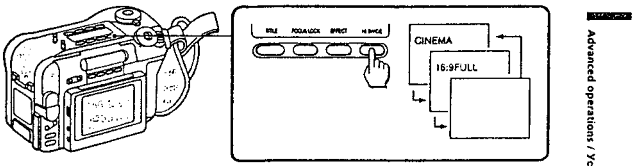
16:9FULL
Изображение на экране ЖКД [d] или на обычном телевизоре [e] сжато по горизонтали. Вы можете просмотреть нормальное изображение на широкоэкранном телевизоре [f].

Using the wide mode function

Использование функции широкоформатного режима

Using the wide mode function

While the camcorder is in Standby mode, press 16:9WIDE repeatedly so that the desired mode indicator appears on the LCD screen.



To cancel wide mode

Press 16:9WIDE repeatedly until the wide mode indicator disappears.

To watch the tape recorded in wide mode

To watch the tape recorded in CINEMA mode, set the screen mode of the wide-screen TV to zoom mode. To watch the tape recorded in 16:9FULL mode, set it to full mode. For details, refer to the instruction manual of your TV.
Note that the picture recorded in 16:9FULL mode looks compressed on a normal TV.

Notes on wide mode
- If wide mode is set to 16:9FULL, the SteadyShot function does not work and the 'Ʊ' indicator flashes.
- When you record in 16:9FULL mode, the date or time indicator will be widened on the wide-screen TV.
- If you dub a tape, the tape is copied in the same mode as the original recording.
- The wide mode is cancelled automatically 5 minutes after you remove the power source.
- You cannot select or cancel the wide mode during recording.

Использование функции широкоформатного режима

Когда видеокамера находится в режиме готовности, повторно нажимайте 16:9WIDE до тех пор, пока индикатор желаемого режима не появится на экране ЖКД.

Для отмены режима

Повторно нажимайте 16:9WIDE до тех пор, пока индикатор широкоформатного режима не исчезнет.

Для просмотра ленты, записанной в широкоформатном режиме

Для просмотра ленты записанной в режиме CINEMA установите режим экрана широкоэкранного телевизора на режим масштабирования. Для просмотра ленты записанной в режиме 16:9FULL установите его на полноэкранный режим. Подробности смотрите в инструкции по эксплуатации Вашего телевизора.
Заметьте, что изображение, записанное в режиме 16:9FULL, выглядит сжатым на обычном телевизоре.

Примечания к широкоформатному режиму
- Если широкоформатный режим установлен на 16:9FULL, то функция устойчивой съемки работать не будет, а индикатор 'Ʊ будет мигать.
- При записи в режиме 16:9FULL индикатор даты или времени будет расширенным на широкоэкранном телевизоре.
- Если Вы осуществляете перезапись ленты, то лента будет записываться в таком режиме, как и исходная лента.
- Широкоформатный режим будет автоматически отменен через 5 минут после снятия источника питания.
- Вы не можете выбрать или отменить широкоформатный режим во время записи.

Superimposing a title

Наложение надписи

You can select from eight preset titles and two titles you made to superimpose over the picture while recording.
Each time you press TITLE while the camcorder is in Standby mode, the titles appear one by one. When you do not make titles, they are not displayed.

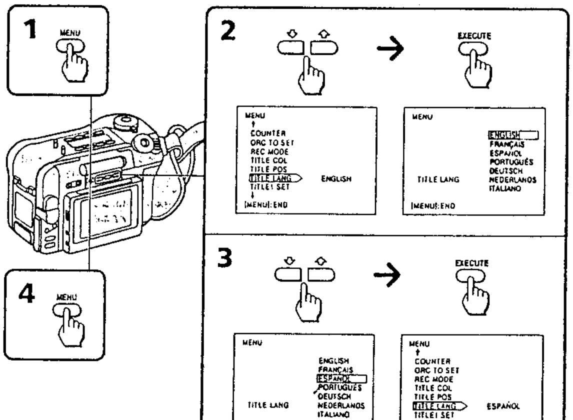
Selecting the language

(1) While the camcorder is in Standby mode, press MENU to display the menu on the LCD screen.
(2) Press ♦ or ♦ to select "TITLE LANG", then press EXECUTE.
(3) Press ♦ or ♦ to select the desired language, then press EXECUTE.
(4) Press MENU to erase the menu display.

У Вас есть выбор из восьми предварительно установленных надписей и две надписи Вы можете создать для наложения на изображение во время записи.
Каждый раз при нажатии TITLE, когда видеокамера находится в режиме готовности, надписи появляются одна за другой. Если Вы не создали собственных надписей, они не отображаются.

Выбор языка

(1) Когда видеокамера находится в режиме готовности, нажмите MENU для отображения меню на экране ЖКД.
(2) Нажмите ♦ или ♦ для выбора "TITLE LANG", а затем нажмите EXECUTE.
(3) Нажмите ♦ или ♦ для выбора желаемого языка, а затем нажмите EXECUTE.
(4) Нажмите MENU для стирания дисплея меню.



Superimposing a title

Наложение надписи

Using titles

To superimpose from the beginning

(1) Set the POWER switch to CAMERA.
(2) Press TITLE repeatedly in Standby mode until the desired title appears. The title stops flashing and then stays lit. This means that the title is selected.
(3) Press START/STOP to start recording.
(4) Press TITLE when you want to turn off the title. The title disappears.

To superimpose on the way of recording

(1) Press TITLE repeatedly in Standby mode until the desired title appears. The title flashes.
(2) When the title stops flashing, press TITLE. The title disappears.
(3) Press START/STOP to start recording.
(4) Press TITLE when you want to superimpose the title.
(5) Press TITLE when you want to turn off the title.

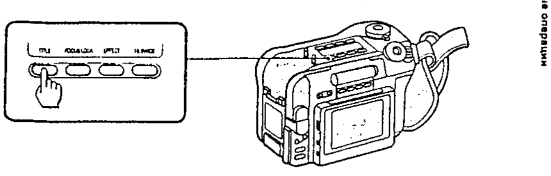
Использование надписей

Для наложения надписи от начала

(1) Установите выключатель POWER в положение CAMERA.
(2) Неоднократно нажимайте TITLE в режиме готовности до тех пор, пока не появится желаемая надпись. Надпись перестанет мигать и будет светиться. Это означает, что надпись выбрана.
(3) Нажмите START/STOP для начала записи.
(4) Нажмите TITLE, когда Вы захотите выключить надпись. Надпись исчезнет.

Для наложения надписи во время записи

(1) Неоднократно нажимайте TITLE в режиме готовности до тех пор, пока не появится желаемая надпись. Надпись будет мигать.
(2) Когда надпись перестанет мигать, нажмите TITLE. Надпись исчезнет.
(3) Нажмите START/STOP для начала записи.
(4) Нажмите TITLE, когда Вы захотите наложить надпись.
(5) Нажмите TITLE, когда Вы захотите выключить надпись.



Superimposing a title

Наложение надписи

Titles cycle as follows:
Original title 1 → Original title 2 → HELLO! → HAPPY BIRTHDAY → HAPPY HOLIDAYS → CONGRATULATIONS! → OUR SWEET BABY → WEDDING → VACATION → THE END
When you press TITLE with "THE END" displayed, the titles disappear. When you press TITLE once again, the titles begin from "HELLO!" or your original title.

If you have not stored any original titles
The titles begin from "HELLO!".

Notes on titles
- You cannot select a title during recording.
- While a title is displayed, the picture does not fade in or out.
- While fading in or fading out, you cannot superimpose a title.
- You cannot record a title and the date at the same time.
- You cannot record a title and the time at the same time.
- While the menu is displayed, the titles are not recorded.

To select the title colour

(1) Press MENU to display the menu on the LCD screen.
(2) Press ♦ or ♦ to select "TITLE COL", then press EXECUTE.
(3) Press ♦ or ♦ to select the desired colour, then press EXECUTE.
You can choose from the following 7 colours:
WHITE ←→ YELLOW ←→ VIOLET ←→ RED ←→ CYAN ←→ GREEN ←→ BLUE
(4) Press MENU to erase the menu display.

To select the title position

(1) Press MENU to display the menu on the LCD screen.
(2) Press ♦ or ♦ to select "TITLE POS", then press EXECUTE.
(3) Press ♦ or ♦ to select "CENTER" [a] or "BOTTOM" [b], then press EXECUTE.
(4) Press MENU to erase the menu display.

Надписи циклически изменяются следующим образом:
Собственная надпись 1 → Собственная надпись 2 → HELLO! → HAPPY BIRTHDAY → HAPPY HOLIDAYS → CONGRATULATIONS! → OUR SWEET BABY → WEDDING → VACATION → THE END
Если Вы нажимаете TITLE при отображении "THE END", надписи исчезают. Если Вы нажимаете TITLE еще раз, надписи начинаются с надписи "HELLO!" или с Вашей собственной надписи.

Если Вы не запомнили никакой собственной надписи
Надписи начинаются с "HELLO!".

Примечания к надписям
- Вы не можете выбрать надпись во время записи.
- Когда отображается надпись изображение плавно не вводится и не выводится.
- Во время введения или выведения изображения вы не можете наложить надпись.
- Вы не можете записывать надпись и дату одновременно.
- Вы не можете записывать надпись и время одновренменно.
- Во время отображения меню надписи не записываются.

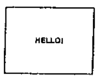
Для выбора цвета надписи

(1) Нажмите MENU для отображения меню на экране ЖКД.
(2) Нажмите ♦ или ♦ для выбора "TITLE COL", а затем нажмите EXECUTE.
(3) Нажмите ♦ или ♦ для выбора желаемого цвета, а затем нажмите EXECUTE.
Вы можете выбирать из следующих 7 цветов:
WHITE ←→ YELLOW ←→ VIOLET ←→ RED ←→ CYAN ←→ GREEN ←→ BLUE
(4) Нажмите MENU для стирания дисплея меню.

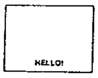
Для выбора положения надписи

(1) Нажмите MENU для отображения меню на экране ЖКД.
(2) Нажмите ♦ или ♦ для выбора "TITLE POS", а затем нажмите EXECUTE.
(3) Нажмите ♦ или ♦ для выбора "CENTER" [a] или "BOTTOM" [b], а затем нажмите EXECUTE.
(4) Нажмите MENU для стирания дисплея меню.

[a]



[b]

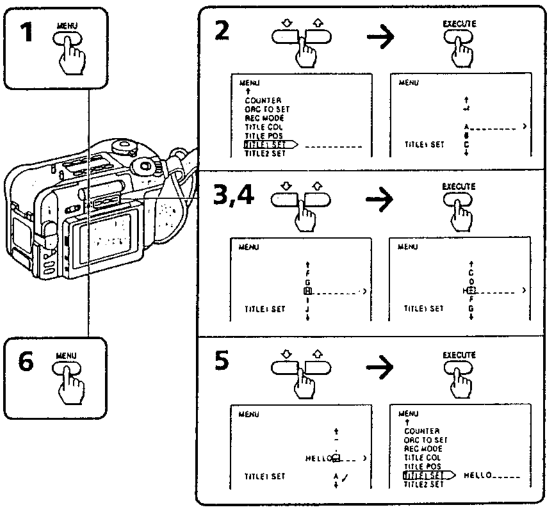


Making your own original titles

Создание Ваших собственных надписей

You can make two titles of up to 22 characters each, and store them in memory.
(1) While the camcorder is in Standby mode, press MENU to display the menu on the LCD screen.
(2) Press ♦ or ♦ to select TITLE1 SET or TITLE2 SET, then press EXECUTE.
(3) Press ♦ or ♦ to select the desired character, then press EXECUTE.
(4) Repeat step 3 until you finish the title.
(5) Press ♦ or ♦ to select ↵, then press EXECUTE. The title is stored in memory.
(6) Press MENU to erase the menu display.

Вы можете создать две надписи, состоящие из 22 знаков каждая, и занести их в память.
(1) Когда видеокамера находится в режиме готовности нажмите MENU для отображения меню на экране ЖКД.
(2) Нажмите ♦ или ♦ для выбора TITLE1 SET или TITLE2 SET, а затем нажмите EXECUTE.
(3) Нажмите ♦ или ♦ для выбора желаемого знака, а затем нажмите EXECUTE.
(4) Повторяйте пункт 3 до тех пор, пока Вы не закончите надпись.
(5) Нажмите ♦ или ♦ для выбора ↵, а затем нажмите EXECUTE. Надпись заносится в память.
(6) Нажмите MENU для стирания дисплея меню.



Making your own original titles

Создание Ваших собственных надписей

To erase the title you have made

Press MENU, select the title you want to erase, and press EXECUTE. Select ↵ at the leftmost character, then press EXECUTE.
Do not select the blank to erase a character. Otherwise, the blank is stored as a title in memory.

To change the title you have made

In step 2, select TITLE1 SET or TITLE2 SET, depending on which title you want to change, then press EXECUTE. Select the desired characters again.

If you enter 22 characters in step 4
The title is stored immediately (and you can skip step 5).

If it takes more than 5 minutes to make a title
If the Standby mode lasts for more than 5 minutes with a cassette inserted, the power will be turned off automatically. If it takes more than 5 minutes to make a title, remove the cassette. The power will not be turned off. If the power is turned off while you are making a title, set the POWER switch to OFF once, then to CAMERA. The title you have made remains stored in memory.

Advancing the characters rapidly
Keep pressing ♦ or ♦.

Making a blank
Select a blank. It is counted as a character.

Для стирания созданной Вами надписи

Нажмите MENU, выберите надпись, которую Вы хотите стереть и нажмтие EXECUTE. Выберите ↵ в позиции крайнего левого знака, а затем нажмите EXECUTE.
Не выбирайте пробел, чтобы стереть знак. В противном случае пробел в качестве надписи будет сохранен в памяти.

Для изменения созданной вами надписи

В пункте 2 выберите TITLE1 SET или TITLE2 SET, в зависимости от того, какую надпись Вы хотите изменить, а затем нажмите EXECUTE. Снова выберите желаемые знаки.

Если Вы ввели 22 знака в пункте 4
Надпись будет запомнена сразу (и Вы можете пропустить пункт 5).

Если проходит более 5 минут при создании надписи.
Если режим готовности продолжается более 5 минут при вставленной кассете, питание выключится автоматически. Если создание надписи занимает более 5 минут, то удалите кассету. Питание выключаться не будет. Если питание выключится, когда Вы создаете надпись, то установите выключатель POWER в положение OFF, а затем в положение CAMERA. Надпись которую Вы создали остается в памяти.

Быстрое продвижение знаков
Держите в нажтом состоянии ♦ или ♦.

Создание пробела
Выберите пробел. Он принимается за знак.

Releasing the STEADYSHOT function

Отключение функции STEADYSHOT

When you shoot, the ⚇ indicator appears on the LCD screen. This indicates that the SteadyShot function is working and the camcorder compensates for camera-shake.

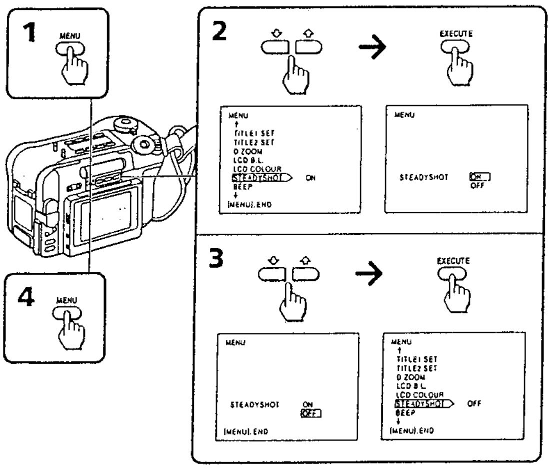
You can release the SteadyShot function when you do not need to use the SteadyShot function. Do not use the SteadyShot function when shooting a stationary object with a tripod.

(1) Press MENU to display the menu on the LCD screen.
(2) Press ♦ or ♦ to select STEADYSHOT, then press EXECUTE.
(3) Press ♦ or ♦ to select OFF, then press EXECUTE.
(4) Press MENU to erase the menu display.

Когда вы производите съемку, индикатор ⚇ появляется на экране ЖКД. Это указывает на то, что функция устойчивой съемки работает для компенсации дрожания видеокамеры.

Вы можете отключить функцию устойчивой съемки, когда Вы не нуждаетесь в использовании функции устойчивой съемки. Не используйте функцию устойчивой съемки при съемке неподвижных объектов с помощью треноги.

(1) Нажмите MENU для отображения меню на экране ЖКД.
(2) Нажмите ♦ или ♦ для выбора STEADYSHOT, а затем нажмите EXECUTE.
(3) Нажмите ♦ или ♦ для выбора OFF, а затем нажмите EXECUTE.
(4) Нажмите MENU для стирания дисплея меню.



Releasing the STEADYSHOT function

Отключение функции STEADYSHOT

To activate the SteadyShot function again

Select ON in step 3, then press EXECUTE.

Notes on the SteadyShot function
- The SteadyShot function will not correct excessive camera-shake.
- When you switch the SteadyShot function on or off, the exposure may fluctuate.
- When you record in 16:9FULL mode, the SteadyShot function does not work and the ⚇ indicator flashes.
- When the SteadyShot function is released, the ⚇ indicator does not appear.

Для активизации функции устойчивой съемки снова

Выберите ON в пункте 3, а затем нажмите EXECUTE.

Примечания к функции устойчивой съемки
- Функция устойчивой съемки не откорректирует чрезмерного дрожания видеокамеры.
- При включении и выключении функции устойчивой съемки экспозиция может колебаться.
- При записи в режиме 16:9FULL функция устойчивой съемки не работает, и индикатор ⚇ будет мигать.
- Когда функция устойчивой съемки отключена, индикатор ⚇ появляться не будет.

Using the PROGRAM AE function

You can select from six PROGRAM AE (Auto Exposure) modes to suit your shooting situation. When you use PROGRAM AE, you can get a Portrait effect (the subject is in focus and the background is out of focus), capture high-speed action, record night views, etc.

Selecting the best mode

Select one of six modes, referring to the following.

⊕ Spotlight mode
Recording a subject spotlighted on a stage or at a wedding ceremony, etc.

Soft Portrait mode
To record
- A still subject such as a person or flower
- A softened picture
- A person in clearer flesh tones

Sports lesson mode
Capturing high-speed action in sports such as golf or tennis

Beach & Ski mode
Recording a person in a place such as on the beach or in the ski slopes where there is a lot of reflection

Sunset & Moon mode
Recording sunset, night views, fireworks or neon signs

Landscape mode
Recording a landscape through a window or wire net

Использование функции PROGRAM AE

Вы можете выбрать один из шести режимов PROGRAM AE (автоматической экспозиции), который подходит для съемки в Вашей ситуации.
Когда Вы используете функцию PROGRAM AE, Вы можете получить портретный эффект (объект в фокусе, а фон не в фокусе), заснять высокоскоростные действия, записать ночные пейзажи и т.д.

Выбор наилучшего режима

Выберите один из шести режимов, сверяясь со следующим.

⊕ Режим прожекторного освещения
Для записи объекта, освещенного на сцене или на свадебной церемонии и т.д.

Мягкий портретный режим
Для записи
- Неподвижного объекта, как например человек или цветок
- Мягкого изображения
- Человека в четких телесных тонах

Режим спортивных занятий
Для съемки высокоскоростных действий в спортивных играх, как например, гольф или теннис

Пляжный и лыжный режим
Для записи человека, находящегося в таком месте, как например, на пляже или снежном склоне, где очень много отраженного света

Режим захода солнца и луны
Для записи захода солнца, ночных пейзажей, фейерверков или неоновых реклам

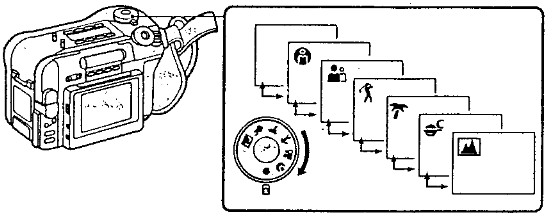
Ландшафтный режим
Для записи ландшафта через окно или проволочную сетку

Using the PROGRAM AE function

Notes on focus setting
- In the Spotlight, Sports lesson and Beach & Ski modes, you cannot take close-ups because the camcorder is set to focus only on subjects in the middle to far distance.
- In the Sunset & Moon and Landscape modes, the camcorder is set to focus only on distant subjects.

Using the PROGRAM AE function

While the camcorder is in recording or Standby mode, turn the PROGRAM AE dial so that the symbol of the desired PROGRAM AE mode matches the indication on the camcorder. The indicator of the selected mode appears on the LCD screen.



To return to automatic adjustment mode

Turn the PROGRAM AE dial so that the ● matches the indication on the camcorder. The indicator of the PROGRAM AE mode disappears.

Note on shutter speed
The shutter speed in each PROGRAM AE mode is as follows:
Soft Portrait mode – from 1/50 to 1/425
Sports lesson mode – from 1/215 to 1/4000
Beach & Ski mode – from 1/50 to 1/215

Использование функции PROGRAM AE

Примечания к установке фокусировки
- В режимах прожекторного освещения, спортивных занятий и пляжном и лыжном Вы не можете снимать крупным планом, так как видеокамера фокусируется только на объекты среднего и дальнего удаления.
- В режимах захода солнца и луны и ландшафтном видеокамера фокусируется только на удаленные объекты.

Использование функции PROGRAM AE

Когда видеокамера находится в режиме записи или готовности, поворачивайте диск PROGRAM AE так, чтобы символ желаемого режима PROGRAM AE соответствовал указанию на видеокамере. Индикатор выбранного режима появляется на экране ЖКД.

Для возврата к режиму автоматической регулировки

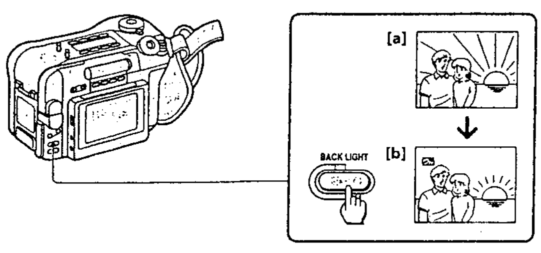
Поверните диск PROGRAM AE так, чтобы знак ● соответствовал указанию на видеокамере. Индикатор режима PROGRAM AE исчезнет.

Примечание к скорости затвора
Скорость затвора в каждом режиме PROGRAM AE будет следующая:
Мягкий портретный режим: от 1/50 до 1/425
Режим спортивных занятий: от 1/215 до 1/4000
Пляжный и лыжный режим: от 1/50 до 1/215

Shooting with backlighting

When you shoot a subject with the light source behind the subject or a subject with a light background, use the BACK LIGHT function.

Press BACK LIGHT. The ⊠ indicator appears on the LCD screen.



[a] Subject is too dark because of backlight.
[b] Subject becomes bright with backlight compensation.

After shooting

Be sure to release this adjustment condition by pressing BACK LIGHT again. The ⊠ indicator disappears. Otherwise, the picture will be too bright under normal lighting condition.

This function is also effective under the following conditions:
- A subject with a light source nearby or a mirror reflecting light
- A white subject against a white background. Especially when you shoot a person wearing shiny clothes made of silk or synthetic fibre, his or her face tends to become dark if you do not use this function.

Съемка с задней подсветкой

Когда Вы снимаете объект с источником света позади объекта или объект на освещенном фоне, используйте функцию BACK LIGHT.

Нажмите BACK LIGHT. Индикатор ⊠ появляется на экране ЖКД.

[a] Объект является слишком темным из-за задней подсветки.
[b] Объект становится ярким с помощью компенсации задней подсветки.

После съемки

Не забудьте отключить состояние этой регулировки путем нажатия BACK LIGHT снова. Индикатор ⊠ исчезнет. В противном случае изображение будет слишком ярким в условиях нормального освещения.

Данная функция является эффективной в следующих условиях:
- Для объекта, расположенного рядом с источником света или зеркалом, отражающим свет.
- Белый объект на белом фоне. Особенно, когда Вы снимаете человека в блестящей одежде из шелка или синтетического волокна, его или ее лицо может стать темным, если Вы не будете использовать данную функцию.

Optimizing the tape condition before recording

Set the ORC TO SET in the menu to automatically adjust the recording condition of the tape to get the best possible recording.
(1) Insert a cassette, and press MENU to display the menu on the LCD screen before starting recording.
(2) Press ♦ or ♦ to select the ORC TO SET, then press EXECUTE. "START/STOP KEY" appears on the LCD screen.
(3) Press START/STOP. "ORC" blinks for about 9 seconds on the LCD screen. If "ORC" disappears, it means that setting is completed. Once you eject a cassette, the setting returns to the default.

If you have already performed this function, "ORC ON" is displayed when you select ORC TO SET in the menu system.

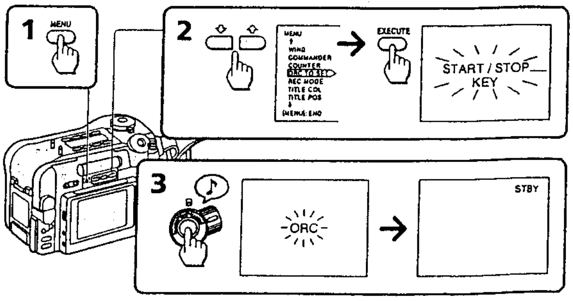
Note on ORC TO SET setting
When you eject a cassette, the ORC TO SET setting is released. Set ORC TO SET when you insert a cassette. When you set ORC TO SET, the recording on the tape is erased for about 0.1 second so that the camcorder can check the tape condition. Be careful when you use a recorded tape. The 0.1 second blank is erased if you record from the point where you set ORC TO SET for more than 2 seconds, or if you record over the blank. You cannot set ORC TO SET for a cassette with its tab out (red).

Оптимизация состояния ленты перед записью

Установите ORC TO SET в меню для автоматической регулировки состояния записи ленты для получения наилучшей по возможности записи.
(1) Вставьте кассету и нажмите MENU для отображения меню на экране ЖКД перед началом записи.
(2) Нажмите ♦ или ♦ для выбора ORC TO SET, а затем нажмите EXECUTE. "START/STOP KEY" появится на экране ЖКД.
(3) Нажмите START/STOP. "ORC" будет мигать приблизительно в течение 9 секунд на экране ЖКД. Если "ORC" исчезнет, то это означает, что установка завершена. Когда Вы вытолкните кассету, установка вернется в исходное состояние.

Если Вы уже задействовали данную функцию, то отображается "ORC ON", когда Вы выбираете ORC TO SET в системе меню.

Примечания к установке ORC TO SET
Когда Вы выталкиваете кассету установка ORC TO SET отключается. Устанавливайте ORC TO SET, когда Вы вставляете кассету. Когда Вы устанавливаете ORC TO SET, запись ленты стирается на 0,1 секунды, так, чтобы видеокамера смогла проверить состояние ленты. Будьте осторожны, когда Вы используете записанную ленту. 0,1-секундный пробел исчезает, если Вы начинаете запись от точки, где Вы установили ORC TO SET более, чем на 2 секунды, или если Вы производите запись поверх незаписанной части. Вы не сможете установить ORC TO SET для кассеты без лепестка (красная метка).

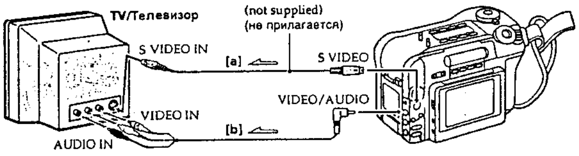


Watching on a TV screen

Просмотр на экране телевизора

You can use the camcorder as a VCR. Connect the camcorder to the inputs on the TV using the supplied A/V connecting cable. Set the TV/VCR selector on the TV to VCR. Procedure to play back is the same as when playing back on the LCD screen. Turn down the volume of the camcorder.
If you are going to connect the camcorder using S video cable (not supplied) [a], you do not need to connect the yellow (video) plug of the A/V connecting cable [b].

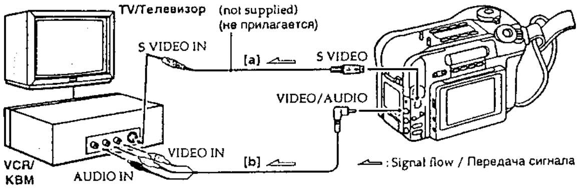
Вы можете использовать видеокамеру в качестве КВМ. Подсоедините видеокамеру к входам на телевизоре, используя прилагаемый соединительный кабель аудио/видео. Установите селектор TV/VCR на телевизоре в положение VCR. Процедура воспроизведения такая же, как и для воспроизведения на экране ЖКД. Понизьте громкость видеокамеры.
Если Вы подсоединяете видеокамеру с использованием кабеля S-видеосигналов (не прилагается) [a], Вам не нужно подсоединять желтый (видео) разъем соединительного кабеля аудио/видео [b].



: Signal flow / Передача сигнала

If your VCR is already connected to a TV
Connect the camcorder to the LINE IN inputs on the VCR by using the A/V connecting cable. Set the input selector on the VCR to LINE. Set the TV/VCR selector on the TV to VCR.

Если Ваш КВМ уже подсоединен к телевизору
Подсоедините видеокамеру к входам LINE IN на КВМ с использованием соединительного кабеля аудио/видео. Установите селектор входных сигналов на КВМ в положение LINE. Установите селектор TV/VCR на телевизоре в положение VCR.



: Signal flow / Передача сигнала

Watching on a TV screen

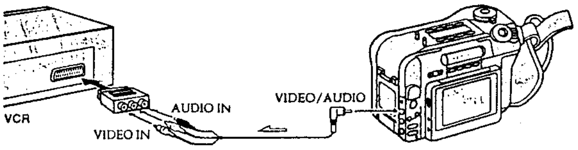
Просмотр на экране телевизора

If your TV or VCR is a monaural type
Connect the yellow plug of the A/V connecting cable for video to the TV or VCR. Connect only the white or red plug for audio to the TV or VCR. If you connect the white plug, the sound is L (left) signal. If you connect the red plug, the sound is R (right) signal.

If your VCR/TV has a 21-pin connector (EUROCONNECTOR)
Use the supplied 21-pin adaptor.

Если Ваш телевизор или КВМ монофонического типа
Подсоедините желтый разъем соединительного кабеля аудио/видео для видеосигналов к телевизору или КВМ. Подсоедините только белый или красный разъем для аудиосигналов к телевизору или КВМ. Если Вы подсоедините белый разъем, то звук будет передаваться L (левым) сиганалом. Если Вы подсоедините красный разъем, то звук будет предаваться R (правым) сигналом.

Если Ваш видеомагниофон/телевизор имеет 21-игольчатый соединитель (EUROCONNECTOR)
Используйте входящий в комплект 21-игольчатый адаптер.



Monitoring the picture from a TV or VCR
You can monitor the picture on the LCD screen. Connect the camcorder to the outputs on the TV or VCR.

Просмотр изображения от телевизора или КВМ
Вы можете контролировать изображение на экране ЖКД. Подключите видеокамеру к выходам на телевизоре или КВМ.

Searching the boundaries of recorded date

Поиск границ записанных дат

You can search for the boundary between recording dates using the Date Code automatically recorded on the tape.
There are two modes:
- Searching for the beginning of a specific date, and playing back from there (Date Search)
- Searching for the beginning of all days, one after another and playing back about 10 seconds of each (Date Scan)

Each time you press DATE SEARCH, the mode changes as follows:
Date Search → Date Scan → Nothing → (Date Search)

To search for the beginning of a specific date

(1) Set the POWER switch to PLAYER.
(2) Press DATE SEARCH on the Remote Commander.
(3) When the current position is [b], press ◄◄ to search towards [a] or press ►► to search towards [c].

To scan the beginning of all days

(1) Set the POWER switch to PLAYER.
(2) Press DATE SCAN on the Remote Commander twice.
(3) Press ◄◄ or ►►. Date Scan starts.

Вы можете осущестлять поиск границ между записанными датами с использованием кода данных, автоматически записывающегося на ленте.
Существует два режима:
- Поиск начала определенной даты с воспроизведением с того места (поиск даты)
- Поиск начала всех дат, одной за другой, с воспроизведением приблизительно в течение 10 секунд каждой из них (сканирование дат)

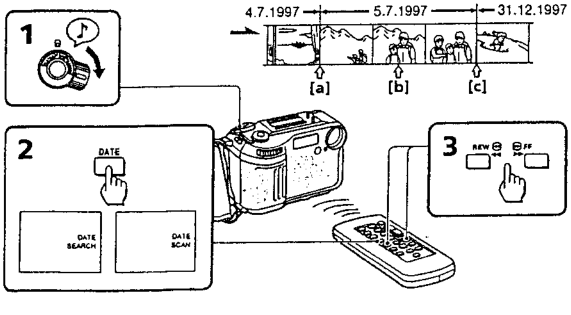
Каждый раз, когда Вы нажимаете DATE SEARCH, режим изменяется следующим образом:
Поиск даты → Сканирование дат → Выкл. → (Поиск даты)

Для поиска начала определенной даты

(1) Установите выключатель POWER в положение PLAYER.
(2) Нажмите DATE SEARCH на пульте дистанционного управления.
(3) Если текущее положение [b], нажмите ◄◄ для поиска в направлении [a] или нажмите ►► для поиска в направлении [c].

Для сканирования начала всех дат

(1) Установите выключатель POWER в положение PLAYER.
(2) Дважды нажмите DATE SCAN на пульте дистанционного управления.
(3) Нажмите ◄◄ или ►►. Сканирование дат начинается.



Searching the boundaries of recorded date

Поиск границ записанных дат

To stop searching or scanning
Press one of the following tape transport buttons:
►, ■, ◄◄ or ►►.

To view pictures during searching or scanning
Press ► and then press ◄◄ or ►►.

Notes on Date Search and Date Scan mode
- If a day's recording is not longer than 2 minutes, the camcorder may not accurately find its boundaries.
- Date Search and Date Scan do not function on a tape recorded by a camcorder without the Data Code function.

Для останова поиска или сканирования
Нажмите одну из следующих кнопок перемещения ленты:
►, ■, ◄◄ или ►►.

Для просмотра изображения во время поиска или сканирования
Нажмите ►, а затем ◄◄ или ►►.

Примечания к режиму поиска даты и сканированию дат
- Если дневная запись продолжается не более 2-х минут, то видеокамера может точно не найти границу.
- Поиск даты и сканирование дат не функционируют на ленте, записанной на видеокамере без функции кода данных.

Returning to a pre-registered position

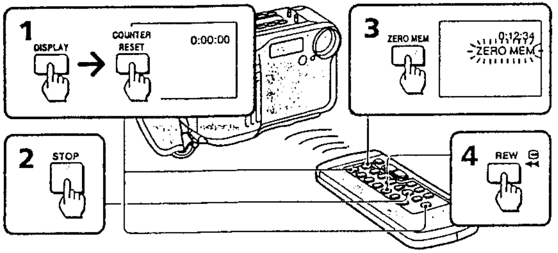
Возврат к предварительно зарегистрированной позиции

Using the Remote Commander, you can easily go back to the desired point on a tape after playback. Use the tape counter. When the RC time code appears on the LCD screen, set COUNTER to NORMAL in the menu system to display the tape counter.

(1) During playback, press DISPLAY to display the tape counter on the LCD screen. Then, press COUNTER RESET at the point you later want to locate. The counter shows "0:00:00" on the LCD screen.
(2) Press ■ when you want to stop playback.
(3) Press ZERO MEM on the Remote Commander. The ZERO MEM indicator flashes on the LCD screen.
(4) Press ◄◄ to rewind or press ►► to fast-forward the tape to the counter's zero point. The tape stops automatically when the counter reaches approximately zero.

Используя пульт дистанционного управления Вы можете легко вернуться к желаемой точке ленты после воспроизведения. Используйте счетчик ленты. Когда временной код RC появится на экране ЖКД, установите COUNTER на NORMAL в системе меню для отображения счетчика ленты.

(1) Во время воспроизведения нажмите DISPLAY для отображения счетчика ленты на экране ЖКД. Затем нажмите COUNTER RESET в месте, которое Вы хотите потом обнаружить. Счетчик будет показывать "0:00:00" на экране ЖКД.
(2) Нажмите ■, когда Вы захотите остановить воспроизведение.
(3) Нажмите ZERO MEM на пульте дистанционного управления. Индикатор ZERO MEM будет мигать на экране ЖКД.
(4) Нажмите ◄◄ для ускоренной перемотки ленты назад или ►► для ускоренной перемотки ленты вперед до нулевой точки счетчика. Лента остановится автоматически, когда счетчик дойдет приблизительно до 0.



Notes on the tape counter
- Something must be recorded on the tape in order for the tape counter to function. Tape counter does not work on a blank tape.
- There may be a discrepancy of several seconds from the actual time.

Notes on ZERO MEM
- When you press ZERO MEM, the counter's zero point is memorized. Press ZERO MEM again to cancel the memory.
- This function is cancelled automatically once the tape is rewound or advanced to the point you pre-registered.
- ZERO MEM does not function during playing back.
- ZERO MEM does not function when COUNTER is set to TIME CODE in the menu system.

Примечания к счетчику ленты
- Что-нибудь должно быть записано на ленте, чтобы счетчик ленты функционировал. Счетчик ленты не работает при незаписанной ленте.
- Может быть расхождение на несколько секунд с фактическим временем.

Примечания к ZERO MEM
- Когда Вы нажимаете ZERO MEM, нулевая точка счетчика запоминается. Снова нажмите ZERO MEM для стирания памяти.
- Данная функция отменяется автоматически, когда лента перемотается назад или вперед до точки, которую Вы запомнили.
- ZERO MEM не функционирует во время воспроизведения.
- ZERO MEM не функционирует, когда функция COUNTER установлена на TIME CODE в системе меню.

Locating the marking position

Нахождение отмеченной позиции

You can locate the beginning of a desired programme easily by marking an index signal during recording or playback and searching for it later.

Marking an index signal

You can mark an index signal during recording or playback with the Remote Commander.

When marking at the beginning of recording or playback

Press INDEX MARK on the Remote Commander in Standby or playback pause mode. The INDEX MARK indicator appears on the LCD screen with the MARK indicator flashing. When recording or playback starts, the MARK indicator stops flashing. This shows that the index signal is being marked. Then the INDEX MARK indicator will disappear.

When marking during recording or playback

Press INDEX MARK on the Remote Commander at the point you want to locate later.

Вы можете легко обнаружить начало желаемой программы путем наложения индексного сигнала во время записи или воспроизведения и последующего его обнаружения.

Запись индексного сигнала

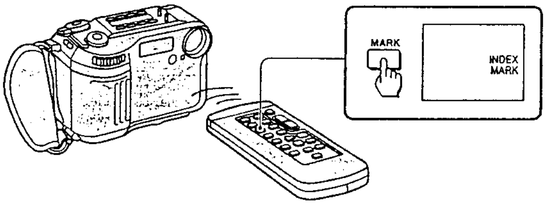
Вы можете записать индексный сигнал во время записи или воспроизведения с помощью пульта дистанционного управления.

При отметке в начале записи или воспроизведения

Нажмите INDEX MARK на пульте дистанционного управления в режиме готовности или паузы воспроизведения. Индикатор INDEX MARK появляется на экране ЖКД с мигающим индикатором MARK. Когда запись или воспроизведение начинается, индикатор MARK перестает мигать. Это показывает на то, что индексный сигнал записан. Затем индикатор INDEX MARK исчезает.

При отметке во время записи или воспроизведения

Нажмите INDEX MARK на пульте дистанционного управления в точке, которую Вы хотите потом обнаружить.



Locating the marking position

Нахождение отмеченной позиции

Notes on marking
- Make sure you mark index signals at more than two-minute intervals. Otherwise, you may not be able to search for them correctly.
- If you stop recording while the index signal is being marked (the INDEX MARK indicator lights on the LCD screen), the search may not be completed correctly.
- If you mark an index signal on the tape with the Data Code, the Data Code will be erased at the point on which the index signal is marked. When playing back this tape, the camcorder keeps displaying the Data Code immediately before the erased one. If the Data Code does not exist for more than 30 seconds, the Data Code displays bars (–).
- A black band appears when you mark the index signal during playback, and you cannot hear the sound. This does not affect the picture and the sound that are already recorded.
- You cannot mark an index signal on a tape with the red mark on the cassette exposed.
- You cannot mark an index when you set START/STOP MODE to ⊥ or 5SEC.

Примечания к записи индексного сигнала
- Вы должны обязательно записывать индексные сигналы с более, чем двухминутными интервалами. В противном случае Вы не сможете находить их правильно.
- Если вы остановите запись во время записи индексного сигнала (индикатор INDEX MARK горит на экране ЖКД), поиск может быть выполнен неправильно.
- Если Вы записываете индексный сигнал на ленте с кодом данных, то код данных будет стерт в точке, в которой записан индексный сигнал. При воспроизведении такой ленты видеокамера отображает код данных непосредственно до того, который был стерт. Если кода данных не будет более 30 секунд, код данных отображается в виде черточек (--).
- Черная полоса появляется, когда вы записываете индексный сигнал во время воспроизведения, и звук прослушиваться не будет. Это не влияет на звук и изображение которые уже записаны.
- Вы не можете записать индексный сигнал на ленте, если на кассете видна красная метка.
- Вы не можете записать индексный сигнал, если START/STOP MODE установлен в положение ⊥ или 5SEC.

Locating the marking position

Нахождение отмеченной позиции

Scanning the beginning of each marking position – index scan

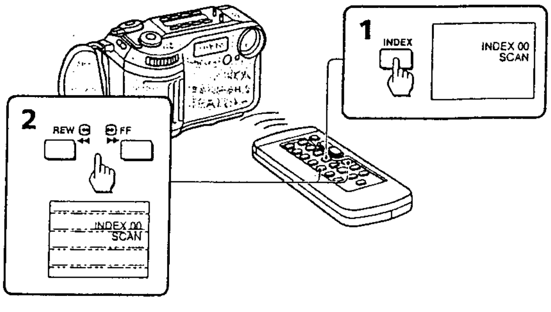
Use the Remote Commander. To view the picture on a TV, press DISPLAY.

(1) Press INDEX on the Remote Commander during normal playback or stop.
(2) Press ◄◄ or ►►. The tape rewinds or advances rapidly and plays back for approximately 10 seconds from the point on which the index signal was marked. If you want to continue playback, press ►. When you do not press any button, the tape is automatically scanned to the next programme.

Сканирование начала каждой отмеченной позиции – индексное сканирование

Используйте пульт дистанционного управления. Для просмотра изображения по телевизору нажмите кнопку DISPLAY.

(1) Нажмите INDEX на пульте дистанционного управления во время нормального воспроизведения или в режиме останова.
(2) Нажмите ◄◄ или ►►. Лента ускоренно перематывается назад или вперед и воспроизводится приблизительно в течение 10 секунд от каждой точки, в которой был записан индексный сигнал. Если Вы хотите продолжить воспроизведение, нажмите ►. Если Вы не нажимаете никакой кнопки, на ленте автоматически осуществляется поиск следующей программы.



To cancel index scan mode

Press ►. Normal playback resumes.

Для отмены режима индексного сканирования

Нажмите ►. Нормальное воспроизведение будет восстановлено.

Locating the marking position

Нахождение отмеченной позиции

Locating the desired marking position – index search

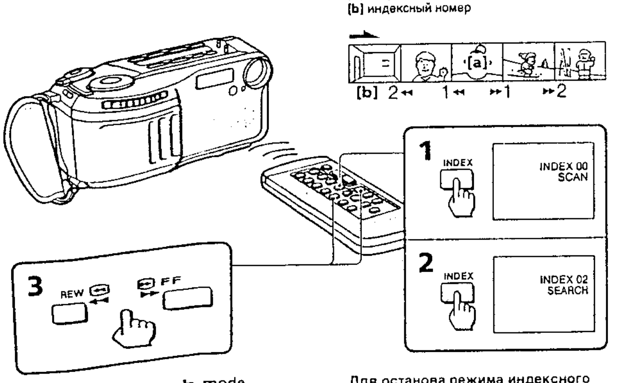
(1) Press INDEX on the Remote Commander during stop or playback mode.
(2) Press INDEX repeatedly until the index number of the desired programme is displayed on the LCD screen.
(3) Press ◄◄ or ►►. Playback starts from the beginning of the desired programme.

[a] the current position
[b] the index number

Нахождение желаемой отмеченной позиции – Индексный поиск

(1) Нажмите INDEX на пульте дистанционного управления в режиме останова или воспроизведения.
(2) Неоднократно нажимайте INDEX до тех пор, пока индексный номер желаемой программы не отобразится на экране ЖКД.
(3) Нажмите ◄◄ или ►►. Воспроизведение начнется от начала желаемой программы.

[a] текущее положение
[b] индексный номер



To stop index search mode
Press ►. Normal playback resumes.

Note on the index number
The index number (1, 2, etc.) indicates the distance from the point you are now viewing [a], regardless of the direction.

Для останова режима индексного поиска
Нажмите ►. Нормальное воспроизведение будет восстановлено.

Примечание к индексному номеру.
Индексный номер (1, 2 и т.д.) указывает расстояние от места, которое Вы просматриваете в текущий момент [a], независимо от направления.

Locating the marking position

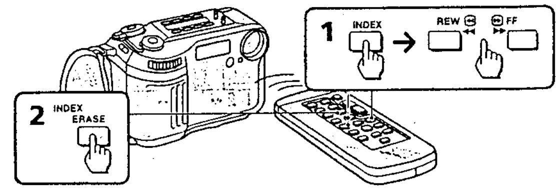
Нахождение отмеченной позиции

Erasing an index signal

(1) Locate the index signal to be erased using the index scan or index search function.
(2) Press INDEX ERASE on the Remote Commander within 2 to 10 seconds while the desired programme plays back. After the index signal is erased, the camcorder returns to index scan or index search mode, whichever was used in step 1.

Стирание индексного сигнала

(1) Найдите индексный сигнал подлежащий стиранию с использованием функции индексного сканирования или индексного поиска.
(2) Нажмите INDEX ERASE на пульте дистанционного управления в пределах от 2 до 10 секунд во время воспроизведения желаемой программы. После стирания индексного сигнала видеокамера возвращается к режиму индексного сканирования или индексного поиска, в зависимости от того, который из них был использован в пункте 1.



Notes on erasing
- Press INDEX ERASE more than 2 seconds after the playback of the desired programme begins.
- You cannot erase the index signal on a tape with the red mark on the cassette exposed.
- While the index signal is being erased, the sound cannot be heard and a black band appears at the bottom of the picture. This will not affect the recorded sound or picture.
- The camcorder can detect index signals marked with VCRs, but may not erase them. VCRs with an index function can detect index signals marked with this camcorder but cannot erase them.
- An index signal may be erased when making PCM after recording on another VCR in the portion where the index signal is marked.

Note on Data Code
When an index signal is erased, the Data Code on the same portion of the tape is also erased.

Примечания к стиранию
- Нажмите INDEX ERASE более, чем через 2 секунды после начала воспроизведения желаемой программы.
- Вы не можете стереть индексный сигнал с ленты, если на кассете видна красная метка.
- Во время стирания индексного сигнала звук прослушиваться не может, и черная полоса появляется внизу изображения. Это не будет влиять на записанные звук и иображение.
- Видеокамера может детектировать индексные сигналы, записанные на КВМ, но не может их стереть. КВМ с индексной функцией может детектировать индексные сигналы, записанные на данной видеокамере, но не может их стереть.
- Индексный сигнал может быть стерт при выполнении PCM после записи на другом КВМ в части, где инденксный сигнал был записан.

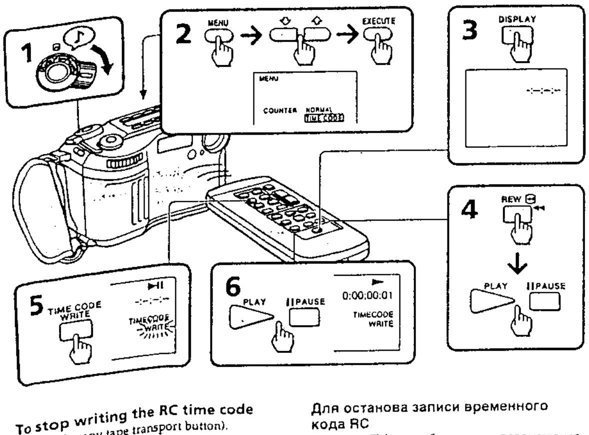
Примечание к коду данных
При стирании индексного сигнала код данных, для той же части ленты также будет стерт.

Writing the RC time code on a recorded tape

Запись временного кода RC на записанной ленте

You can write the RC time code on a recorded tape. Use the Remote Commander.
(1) While pressing the small green button on the POWER switch, set it to PLAYER.
(2) Set COUNTER to TIME CODE in the menu system.
(3) Press DISPLAY. The RC time code indicator appears on the LCD screen.
(4) Rewind the tape to the beginning and set the camcorder to playback pause mode.
(5) Press TIME CODE WRITE on the Remote Commander. The TIME CODE WRITE indicator appears on the LCD screen with the WRITE indicator flashing.
(6) Press ► or ❚❚ to start playback. The WRITE indicator stops flashing and the RC time code writing starts from 0:00:00:00.

Вы можете записать временной код RC на записанной ленте. Используйте пульт дистанционного управления.
(1) Нажимая маленькую зеленую кнопку на выключателе POWER, установите его в положение PLAYER.
(2) Установите COUNTER наTIME CODE в системе меню.
(3) Нажмите DISPLAY. Индикатор временного кода RC появляется на экране ЖКД.
(4) Перемотайте ленту назад на начало и установите видеокамеру на режим паузы воспроизведения.
(5) Нажмите TIME CODE WRITE на пульте дистанционного управления. Индикатор TIME CODE WRITE появляется на экране ЖКД с мигающим индикатором WRITE.
(6) Нажмите ► или ❚❚ для начала воспроизведения. Индикатор WRITE перестает мигать, и запись временного кода RC начинается с 0:00:00:00.



To stop writing the RC time code
Press ■ (or any tape transport button).

Для останова записи временного кода RC
Нажмите ■ (или любую кнопку перемещения ленты).

Writing the RC time code on a recorded tape

Запись временного кода RC на записанной ленте

To write the RC time code from the end of the RC time code recorded portion

Rewind the tape to the portion on which the RC time code has been written and set the camcorder to playback pause mode. Then follow steps 5 and 6 on the previous page. The RC time code is written continuously.

Notes on writing the RC time code
- The RC time code writing stops when:
- you press TIME CODE WRITE again before starting playback.
- you press INDEX before starting playback.
- you change from playback mode to another mode.
- When you are writing the RC time code from the middle of a tape without the time code written, writing starts several frames before the current picture.
- If you write the RC time code on a recorded tape, the Data Code and index signal are erased.
- You cannot mark the RC time code on a tape with its record protect tab out (red).
- When you are writing the RC time code, the sound cannot be heard and a black band appears at the bottom of the picture.

Note on -:--:--:-- indicator
The -:--:--:-- indicator appears during playback if:
- nothing is recorded.
- the RC time code is unreadable because of the damage of the tape or because of the noise.
- you recorded using another VCR without RC time code function.
- you erase the index signal or make PCM after recording on another VCR in the portion on which the RC time code is written.

In this case, we recommend you to rewrite the RC time code.

Для записи временного кода RC от конца записанной части с временным кодом RC

Перемотайте ленту назад до части, на которой был записан временной код RC, и установите видеокамеру на режим паузы воспроизведения. Затем следуйте пунктам 5 и 6 на предыдущей странице. Временной код RC будет записан без перерыва.

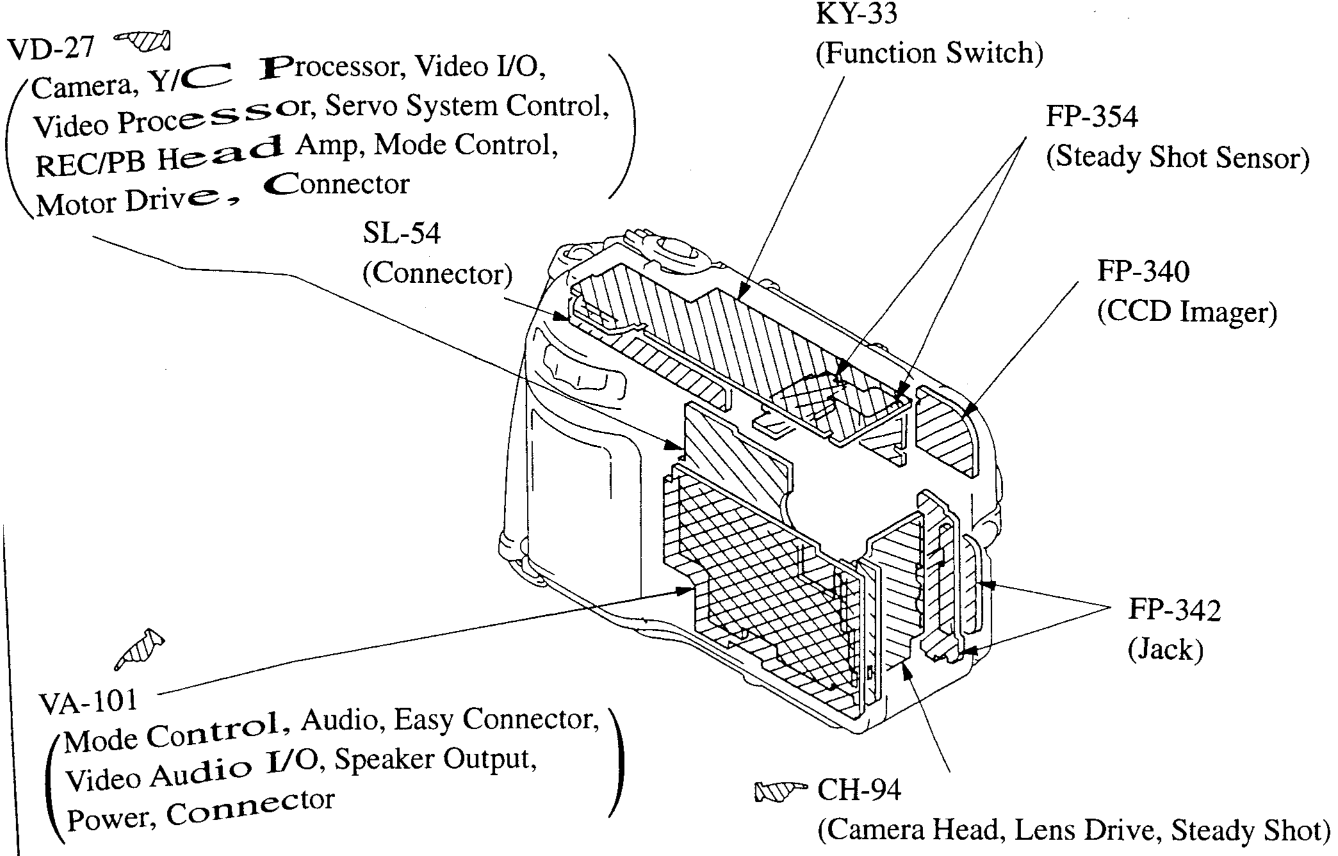
Примечания к записи временного кода RC
- Запись временного кода RC отменяется, когда:
- Вы нажимаете TIME CODE WRITE снова до начала воспроизведения.
- Вы нажимаете INDEX до начала воспроизведения.
- Вы изменяете режим воспроизведения на другой режим.
- Если Вы записываете временной код RC с середины ленты, на которой не записан временной код RC, запись временного кода начнется на несколько кадров раньше текущего изображения.
- Если Вы записываете временной код RC на записанную ленту, то код данных и индексный сигнал стираются.
- Вы не можете записать временной код RC на ленте без предохранительного лепестка (красная метка).
- Когда Вы записываете временной код RC, звук не будет прослушиваться, и черная полоса появляется снизу изображения.

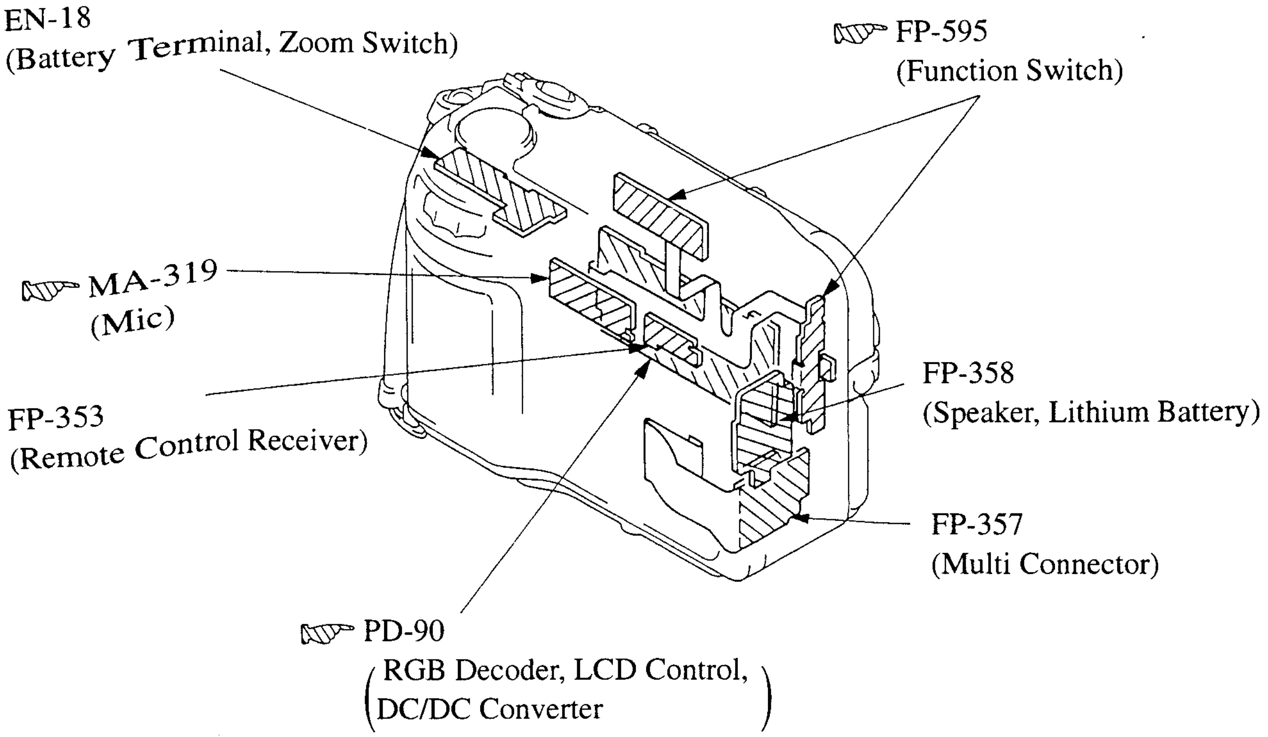
Примечание к индикатору -:--:--:--
Индикатор -:--:--:-- появляется во время воспроизведения, если:
- ничего не записано.
- временной код RC не считывается из-за повреждения ленты или из-за помех.
- Вы произвели запись с использованием другого КВМ без функции временного кода RC.
- Вы стираете индексный сигнал или выполняете PCM после записи на другом КВМ в части, на которой был записан временной код RC.

В таком случае мы рекомендуем Вам перезаписать временной код RC.

11.CIRCUIT BOARDS LOCATION
(See page original service manual 2-8)

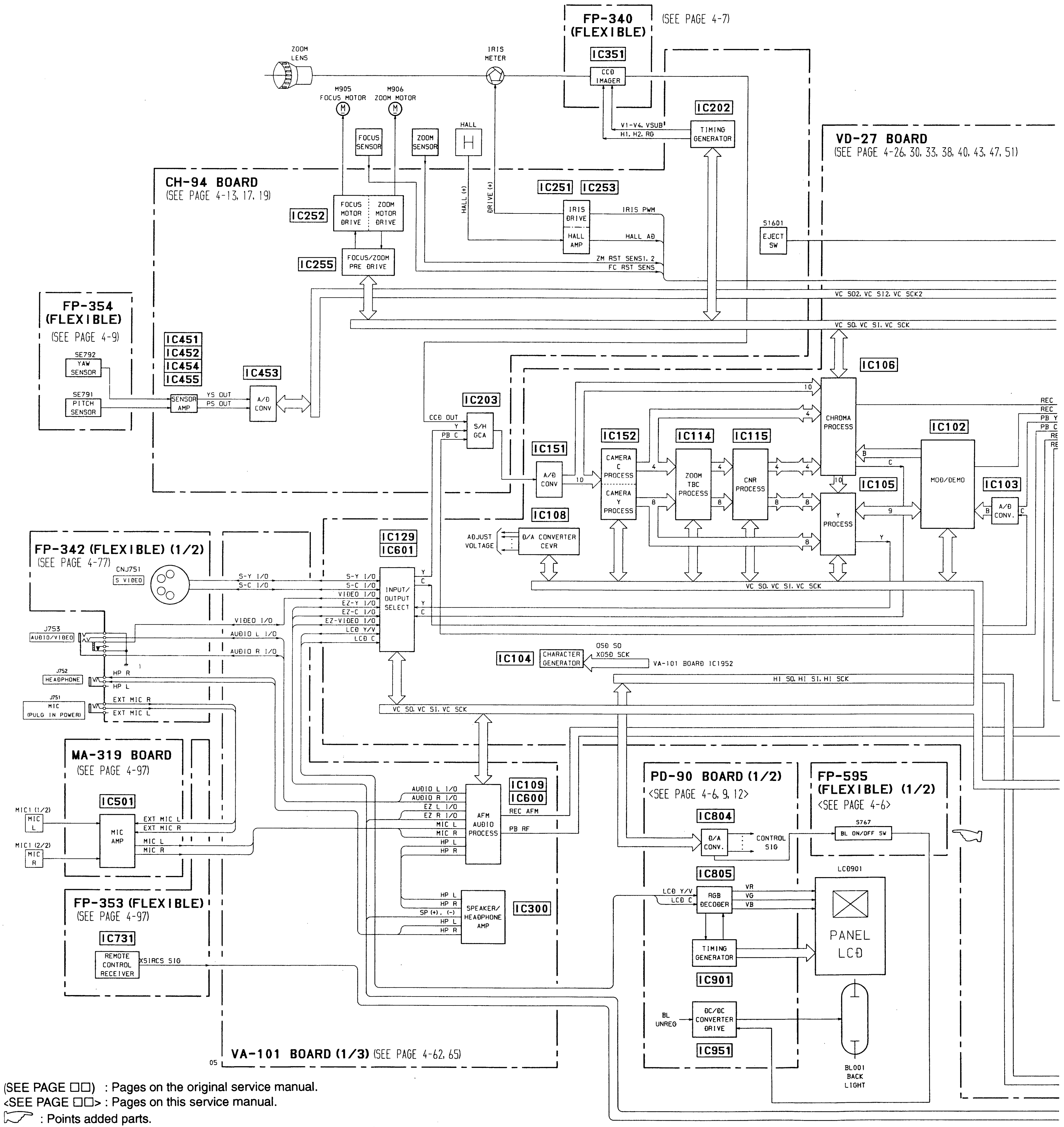
☞: Points changed portion


VD-27 ☞
(Camera, Y/C Processor, Video I/O, Video Processor, Servo System Control, REC/PB Head Amp, Mode Control, Motor Drive, Connector)
KY-33
(Function Switch)
FP-354
(Steady Shot Sensor)
SL-54
(Connector)
FP-340
(CCD Imager)
FP-342
(Jack)
☞
VA-101
(Mode Control, Audio, Easy Connector, Video Audio I/O, Speaker Output, Power, Connector)
☞ CH-94
(Camera Head, Lens Drive, Steady Shot)


EN-18
(Battery Terminal, Zoom Switch)
☞ FP-595
(Function Switch)
☞ MA-319
(Mic)
FP-358
(Speaker, Lithium Battery)
FP-353
(Remote Control Receiver)
FP-357
(Multi Connector)
☞ PD-90
(RGB Decoder, LCD Control, DC/DC Converter)

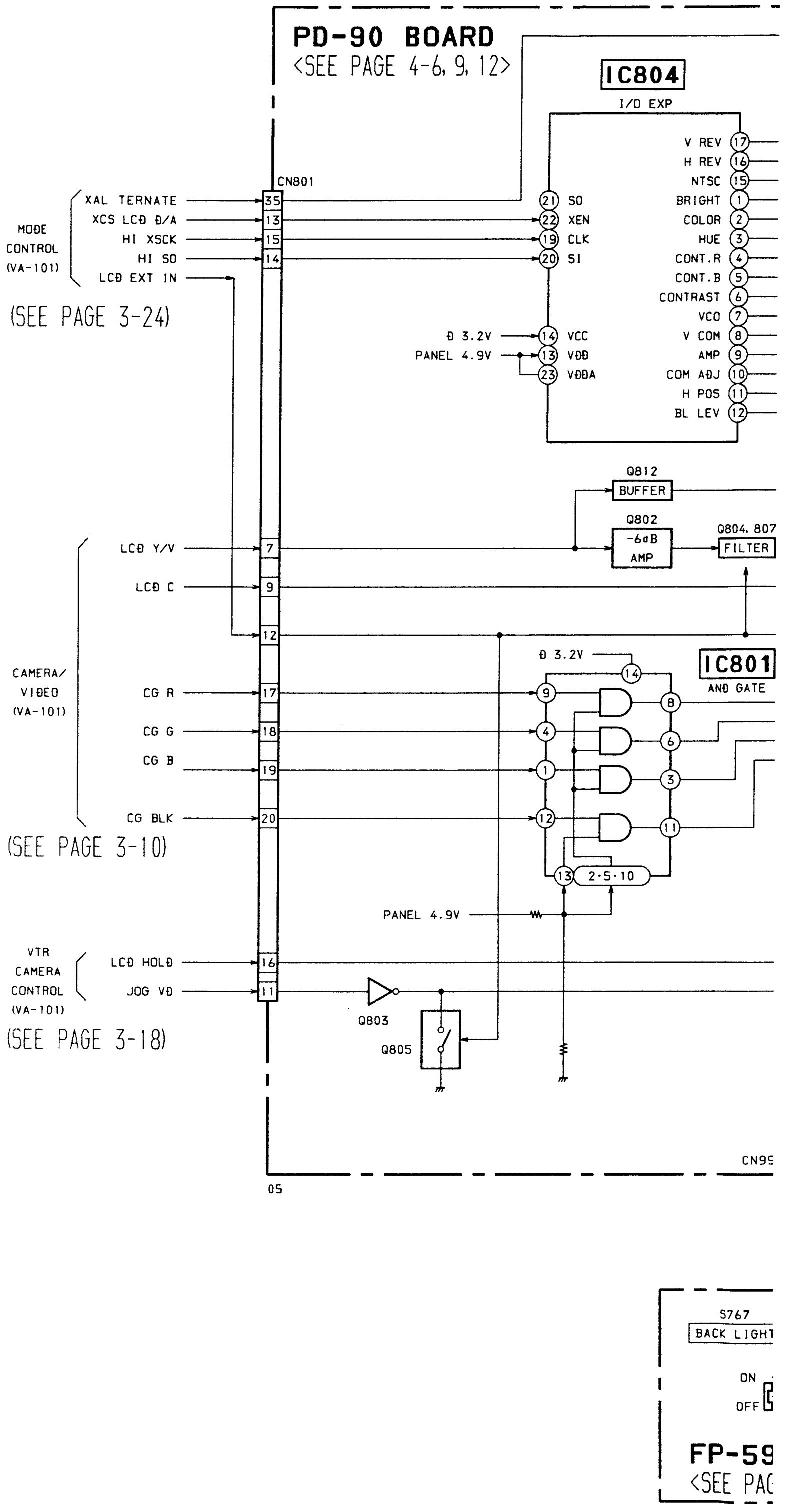
SECTION 3
BLOCK DIAGRAMS

3-1. OVERALL BLOCK DIAGRAM (See page original service manual 3-1, 2)

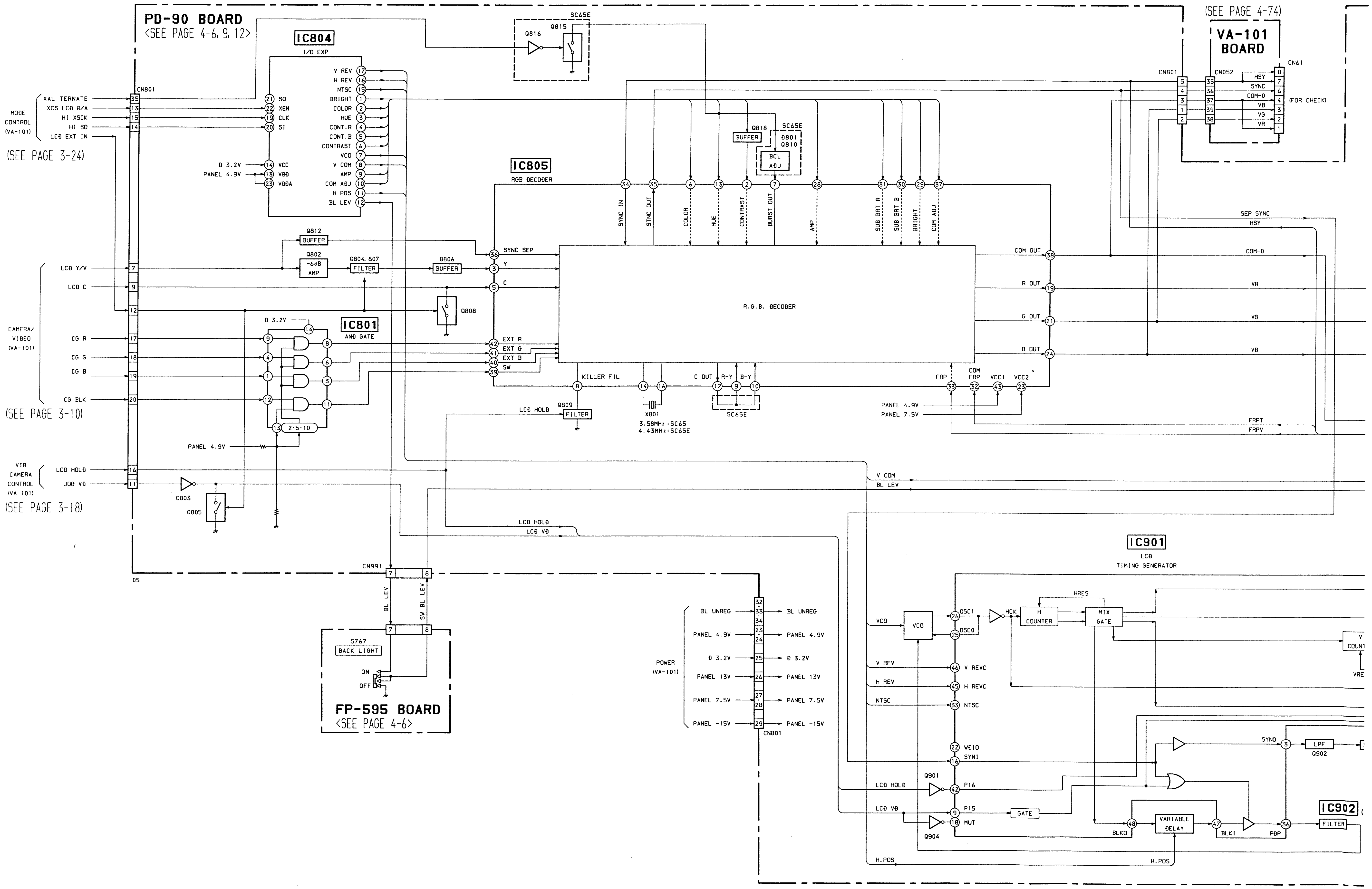

FP-340 (FLEXIBLE)
(SEE PAGE 4-7)
IC351
CCD IMAGER
ZOOM LENS
IRIS METER
M905 FOCUS MOTOR
M906 ZOOM MOTOR
FOCUS SENSOR
ZOOM SENSOR
HALL
IC202
TIMING GENERATOR
V1-V4, VSUB
H1, H2, RG
CH-94 BOARD
(SEE PAGE 4-13, 17, 19)
IC252
FOCUS MOTOR DRIVE
ZOOM MOTOR DRIVE
IC255
FOCUS/ZOOM PRE DRIVE
HALL (+)
DRIVE (+)
IC251
IC253
IRIS DRIVE
HALL AMP
IRIS PWM
HALL AD
ZM RST SENS1, 2
FC RST SENS
VD-27 BOARD
(SEE PAGE 4-26, 30, 33, 38, 40, 43, 47, 51)
S1601
EJECT SW
VC SO2, VC SI2, VC SCK2
VC SO, VC SI, VC SCK
FP-354 (FLEXIBLE)
(SEE PAGE 4-9)
SE792
YAW SENSOR
SE791
PITCH SENSOR
IC451
IC452
IC454
IC455
SENSOR AMP
YS OUT
PS OUT
IC453
A/D CONV
IC203
CCD OUT
S/H GCA
IC151
A/D CONV
IC152
CAMERA C PROCESS
CAMERA Y PROCESS
IC114
ZOOM TBC PROCESS
IC115
CNR PROCESS
IC106
CHROMA PROCESS
IC105
Y PROCESS
IC102
MOD/DEMO
IC103
A/D CONV.
REC
PB Y
PB C
IC108
ADJUST VOLTAGE
D/A CONVERTER CEVR
IC129
IC601
INPUT/OUTPUT SELECT
FP-342 (FLEXIBLE) (1/2)
(SEE PAGE 4-77)
CNJ751
S VIDEO
S-Y I/O
S-C I/O
VIDEO I/O
EZ-Y I/O
EZ-C I/O
EZ-VIDEO I/O
LCD Y/V
LCD C
J753
AUDIO/VIDEO
AUDIO L I/O
AUDIO R I/O
J752
HEADPHONE
HP R
HP L
J751
MIC
(PULG IN POWER)
EXT MIC R
EXT MIC L
IC104
CHARACTER GENERATOR
OSD SO
XOSD SCK
VA-101 BOARD IC1952
HI SO, HI SI, HI SCK
VC SO, VC SI, VC SCK
MA-319 BOARD
(SEE PAGE 4-97)
IC501
MIC AMP
MIC1 (1/2)
MIC L
MIC1 (2/2)
MIC R
EXT MIC L
EXT MIC R
MIC L
MIC R
IC109
IC600
AFM AUDIO PROCESS
AUDIO L I/O
AUDIO R I/O
EZ L I/O
EZ R I/O
REC AFM
PB RF
HP L
HP R
SPEAKER/HEADPHONE AMP
IC300
SP (+), (-)
FP-353 (FLEXIBLE)
(SEE PAGE 4-97)
IC731
REMOTE CONTROL RECEIVER
XSIRCS SIG
PD-90 BOARD (1/2)
<SEE PAGE 4-6, 9, 12>
IC804
D/A CONV.
CONTROL SIG
IC805
LCD Y/V
LCD C
RGB DECODER
VR
VG
VB
TIMING GENERATOR
IC901
BL UNREG
DC/DC CONVERTER DRIVE
IC951
FP-595 (FLEXIBLE) (1/2)
<SEE PAGE 4-6>
S767
BL ON/OFF SW
LCD901
PANEL LCD
BL001
BACK LIGHT
VA-101 BOARD (1/3) (SEE PAGE 4-62, 65)
05

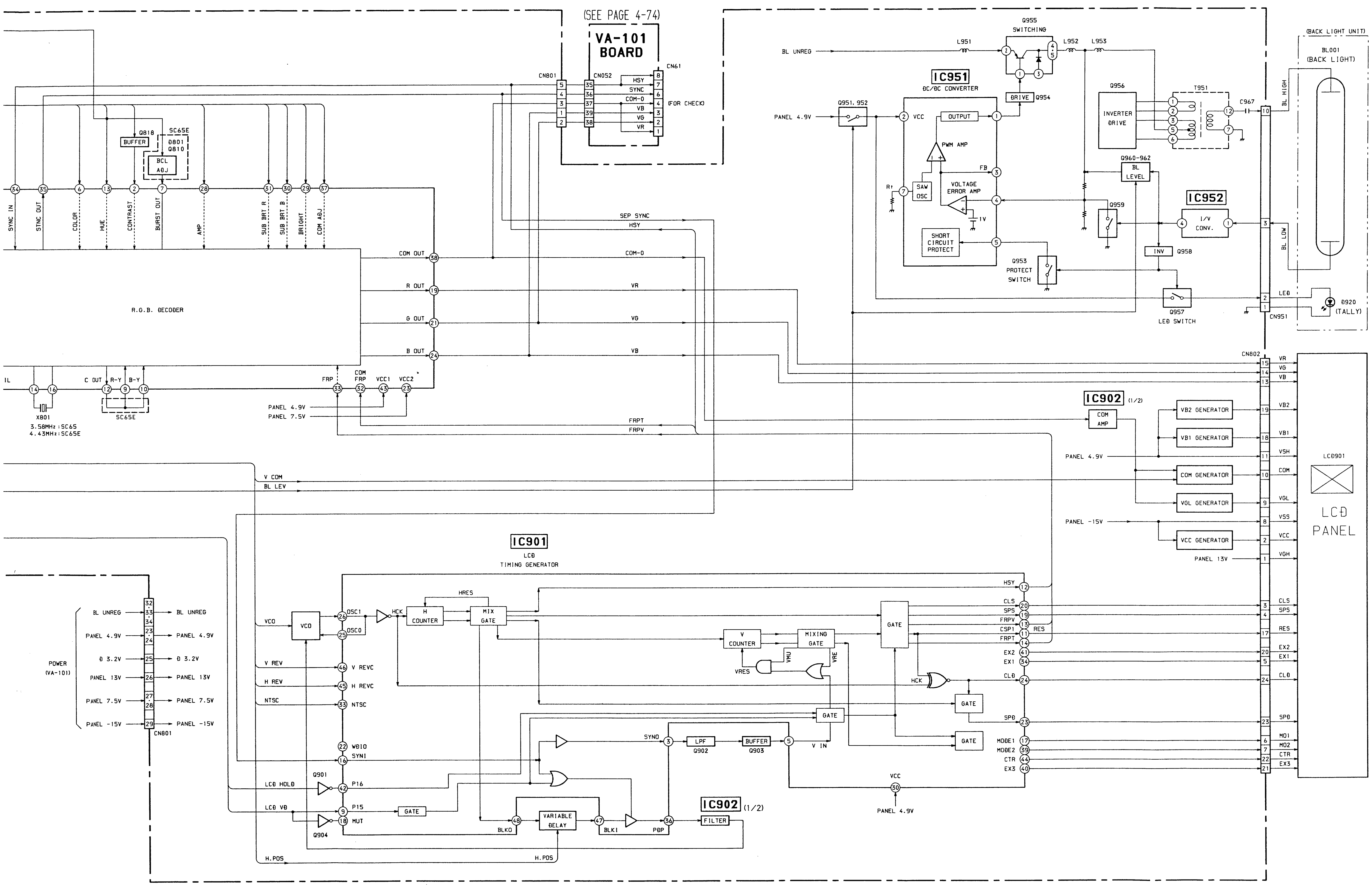
(SEE PAGE □□) : Pages on the original service manual.
<SEE PAGE □□> : Pages on this service manual.
☞ : Points added parts.

3-7. LCD BLOCK DIAGRAM (See page original service n


PD-90 BOARD
<SEE PAGE 4-6, 9, 12>
IC804
I/O EXP
CN801
MODE CONTROL (VA-101)
XAL TERNATE
XCS LCD D/A
HI XSCK
HI SO
LCD EXT IN
(SEE PAGE 3-24)
SO
XEN
CLK
SI
D 3.2V
PANEL 4.9V
VCC
VDD
VDDA
V REV
H REV
NTSC
BRIGHT
COLOR
HUE
CONT.R
CONT.B
CONTRAST
VCO
V COM
AMP
COM ADJ
H POS
BL LEV
Q812
BUFFER
Q802
-6dB AMP
Q804, 807
FILTER
CAMERA/VIDEO (VA-101)
LCD Y/V
LCD C
CG R
CG G
CG B
CG BLK
(SEE PAGE 3-10)
IC801
AND GATE
D 3.2V
2・5・10
PANEL 4.9V
VTR CAMERA CONTROL (VA-101)
LCD HOLD
JOG VD
(SEE PAGE 3-18)
Q803
Q805
CN99
05
S767
BACK LIGHT
ON
OFF
FP-59
<SEE PAG

3-7. LCD BLOCK DIAGRAM (See page original service manual 3-25, 26, 27)

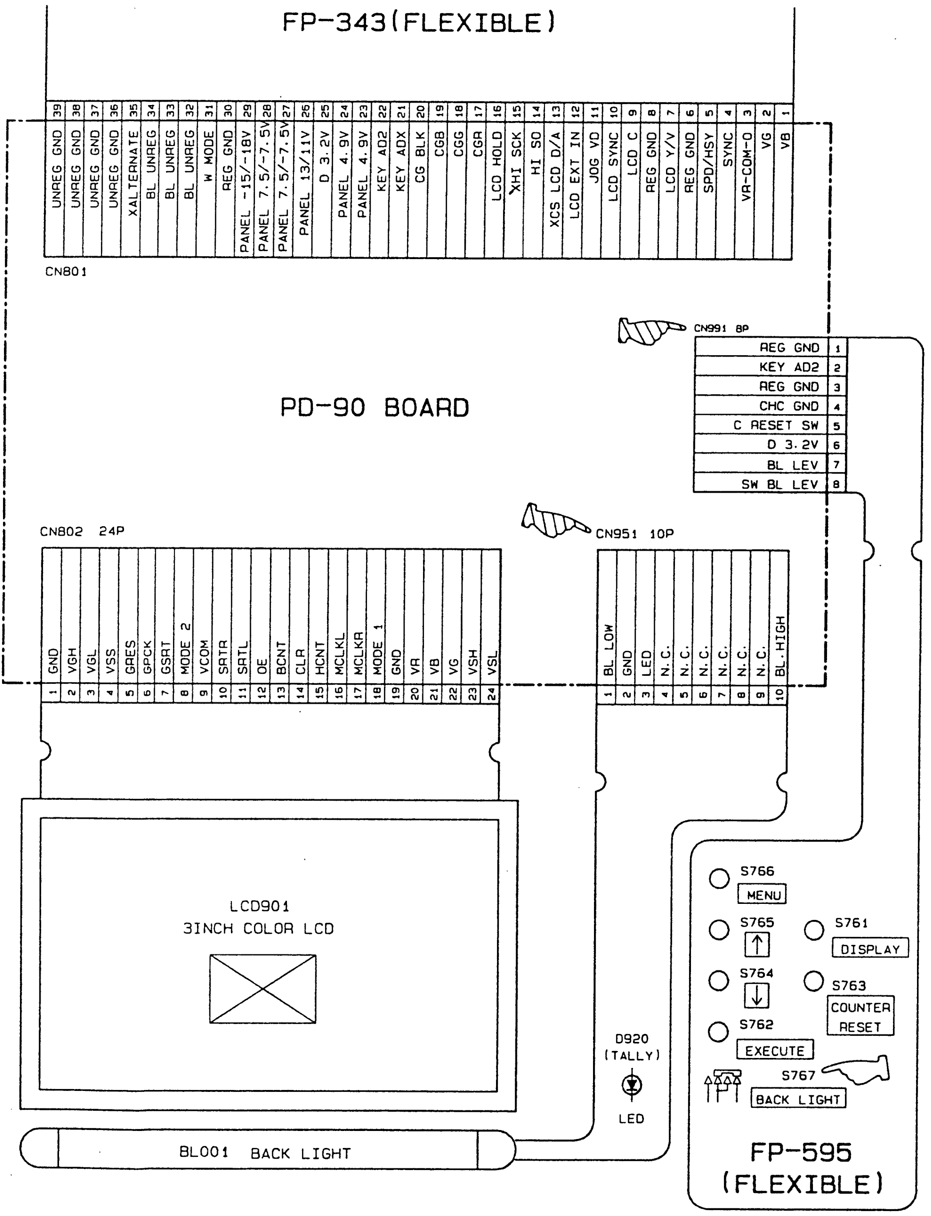

PD-90 BOARD
<SEE PAGE 4-6, 9, 12>
IC804
I/O EXP
V REV 17
H REV 16
NTSC 15
BRIGHT 1
COLOR 2
HUE 3
CONT.R 4
CONT.B 5
CONTRAST 6
VCO 7
V COM 8
AMP 9
COM ADJ 10
H POS 11
BL LEV 12
21 SO
22 XEN
19 CLK
20 SI
14 VCC
13 VDD
23 VDDA
D 3.2V
PANEL 4.9V
CN801
MODE CONTROL (VA-101)
XAL TERNATE
XCS LCD D/A
HI XSCK
HI SO
LCD EXT IN
(SEE PAGE 3-24)
SC65E
Q815
Q816
Q818
BUFFER
SC65E
D801
Q810
BCL ADJ
IC805
RGB DECODER
SYNC IN
SYNC OUT
COLOR
HUE
CONTRAST
BURST OUT
AMP
SUB BRT R
SUB BRT B
BRIGHT
COM ADJ
Q812
BUFFER
Q802
-6dB AMP
Q804, 807
FILTER
Q806
BUFFER
SYNC SEP
Y
C
EXT R
EXT G
EXT B
SW
R.G.B. DECODER
COM OUT
R OUT
G OUT
B OUT
KILLER FIL
C OUT
R-Y
B-Y
FRP
COM FRP
VCC1
VCC2
X801
3.58MHz:SC65
4.43MHz:SC65E
SC65E
Q809
FILTER
LCD HOLD
PANEL 4.9V
PANEL 7.5V
Q808
IC801
AND GATE
D 3.2V
2·5·10
PANEL 4.9V
LCD Y/V
LCD C
CAMERA/ VIDEO (VA-101)
CG R
CG G
CG B
CG BLK
(SEE PAGE 3-10)
VTR CAMERA CONTROL (VA-101)
LCD HOLD
JOG VD
(SEE PAGE 3-18)
Q803
Q805
05
CN991
BL LEV
SW BL LEV
S767
BACK LIGHT
ON
OFF
FP-595 BOARD
<SEE PAGE 4-6>
(SEE PAGE 4-74)
VA-101 BOARD
CN61
CN052
HSY
SYNC
COM-0
VB
VG
VR
(FOR CHECK)
SEP SYNC
HSY
COM-0
VR
VG
VB
FRPT
FRPV
V COM
BL LEV
LCD HOLD
LCD VD
POWER (VA-101)
BL UNREG
PANEL 4.9V
D 3.2V
PANEL 13V
PANEL 7.5V
PANEL -15V
CN801
IC901
LCD TIMING GENERATOR
VCO
OSCI
OSCO
HCK
H COUNTER
HRES
MIX GATE
V COUNT
VRE
V REV
V REVC
H REV
H REVC
NTSC
WDID
SYNI
Q901
P16
P15
MUT
Q904
GATE
SYNO
LPF
Q902
VARIABLE DELAY
BLKO
BLKI
PDP
IC902
FILTER
H.POS


(SEE PAGE 4-74)
VA-101 BOARD
CN801
CN052
CN61
HSY
SYNC
COM-O
VB
VG
VR
(FOR CHECK)
Q818
BUFFER
SC65E
D801 Q810
BCL ADJ
SYNC IN
SYNC OUT
COLOR
HUE
CONTRAST
BURST OUT
AMP
SUB BRT R
SUB BRT B
BRIGHT
COM ADJ
R.G.B. DECODER
COM OUT
R OUT
G OUT
B OUT
SEP SYNC
COM-O
C OUT
R-Y
B-Y
FRP
COM FRP
VCC1
VCC2
X801
3.58MHz:SC65
4.43MHz:SC65E
PANEL 4.9V
PANEL 7.5V
FRPT
FRPV
V COM
BL LEV
Q955
SWITCHING
L951
L952
L953
BL UNREG
IC951
DC/DC CONVERTER
DRIVE
Q954
Q951, 952
PANEL 4.9V
VCC
OUTPUT
PWM AMP
FB
SAW OSC
Rt
VOLTAGE ERROR AMP
1V
SHORT CIRCUIT PROTECT
Q953
PROTECT SWITCH
Q956
INVERTER DRIVE
T951
C967
Q960-962
BL LEVEL
Q959
IC952
I/V CONV.
INV
Q958
Q957
LED SWITCH
CN951
BL HIGH
BL LOW
LED
(BACK LIGHT UNIT)
BL001
(BACK LIGHT)
D920
(TALLY)
CN802
IC902 (1/2)
COM AMP
VB2 GENERATOR
VB1 GENERATOR
COM GENERATOR
VGL GENERATOR
VCC GENERATOR
PANEL -15V
PANEL 13V
VSH
VSS
VGH
LCD901
LCD PANEL
CLS
SPS
RES
EX2
EX1
CLD
SPD
MD1
MD2
CTR
EX3
IC901
LCD TIMING GENERATOR
VCO
OSCI
OSCO
HCK
H COUNTER
HRES
MIX GATE
V COUNTER
MIXING GATE
VMU
VRE
VRES
GATE
HSY
FRPV
CSP1
FRPT
MODE1
MODE2
V REVC
H REVC
NTSC
WDIO
SYNI
P16
P15
MUT
Q901
Q904
LCD HOLD
LCD VD
V REV
H REV
SYNO
LPF
Q902
BUFFER
Q903
V IN
VARIABLE DELAY
BLKO
BLKI
PBP
IC902 (1/2)
FILTER
H.POS
PANEL 4.9V
POWER (VA-101)
BL UNREG
PANEL 4.9V
D 3.2V
PANEL 13V
PANEL 7.5V
PANEL -15V
CN801

SECTION 4
PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

4-1. FRAME SCHEMATIC DIAGRAM (See page original service munual 4-3, 4 location I-P, 20-25)

☞ : Points added parts.
☞ : Points chaged parts

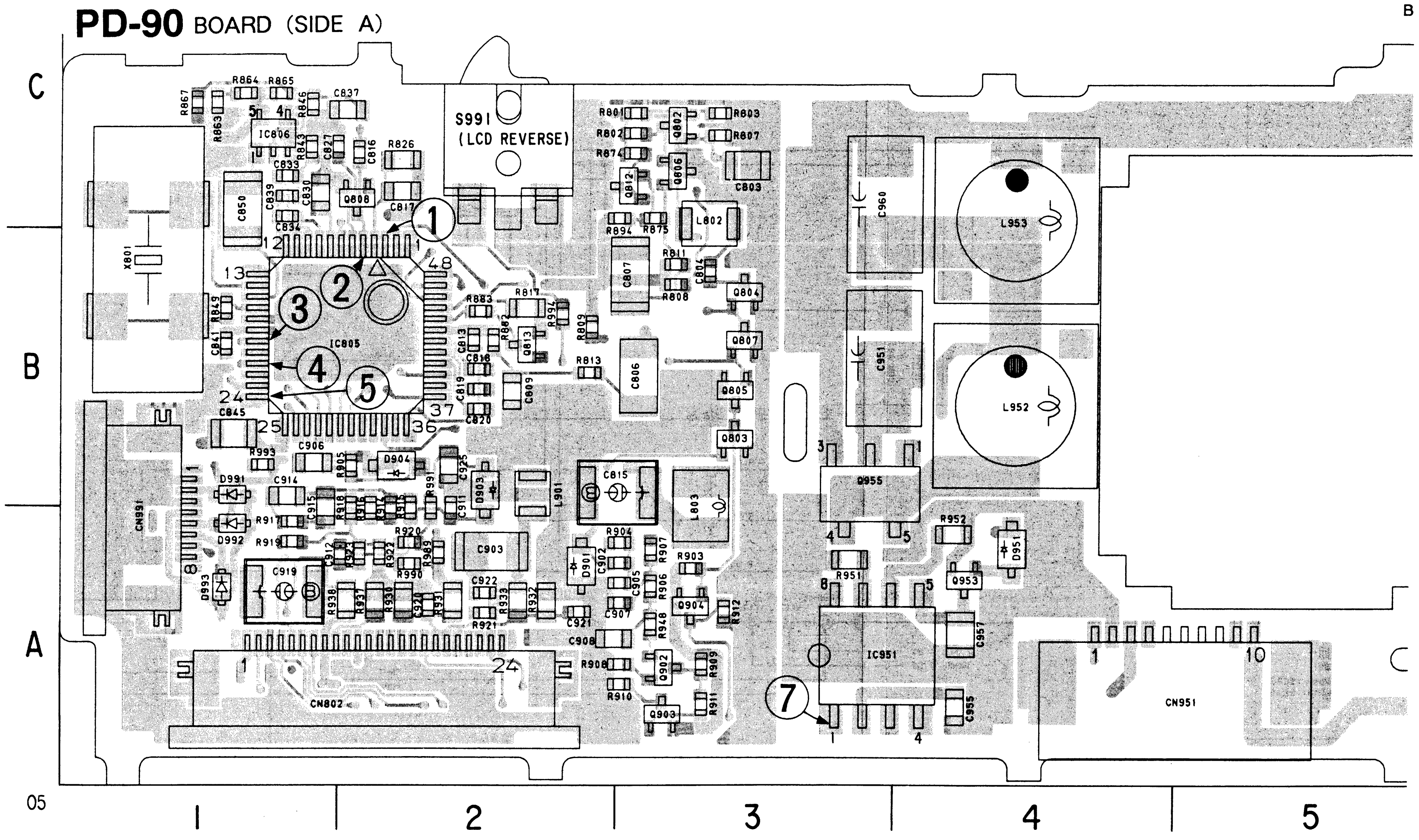

FP-343(FLEXIBLE)
CN801
UNREG GND 39
UNREG GND 38
UNREG GND 37
UNREG GND 36
XALTERNATE 35
BL UNREG 34
BL UNREG 33
BL UNREG 32
W MODE 31
REG GND 30
PANEL -15/-18V 29
PANEL 7.5/-7.5V 28
PANEL 7.5/-7.5V 27
PANEL 13/11V 26
D 3.2V 25
PANEL 4.9V 24
PANEL 4.9V 23
KEY AD2 22
KEY ADX 21
CG BLK 20
CGB 19
CGG 18
CGR 17
LCD HOLD 16
XHI SCK 15
HI SO 14
XCS LCD D/A 13
LCD EXT IN 12
JOG VD 11
LCD SYNC 10
LCD C 9
REG GND 8
LCD Y/V 7
REG GND 6
SPD/HSY 5
SYNC 4
VA-COM-O 3
VG 2
VB 1
CN991 8P
REG GND 1
KEY AD2 2
REG GND 3
CHC GND 4
C RESET SW 5
D 3.2V 6
BL LEV 7
SW BL LEV 8
PD-90 BOARD
CN802 24P
GND 1
VGH 2
VGL 3
VSS 4
GRES 5
GPCK 6
GSRT 7
MODE 2 8
VCOM 9
SRTR 10
SATL 11
OE 12
BCNT 13
CLR 14
HCNT 15
MCLKL 16
MCLKR 17
MODE 1 18
GND 19
VR 20
VB 21
VG 22
VSH 23
VSL 24
CN951 10P
BL LOW 1
GND 2
LED 3
N.C. 4
N.C. 5
N.C. 6
N.C. 7
N.C. 8
N.C. 9
BL HIGH 10
LCD901
3INCH COLOR LCD
D920
(TALLY)
LED
BL001 BACK LIGHT
S766 MENU
S765 ↑
S761 DISPLAY
S764 ↓
S763 COUNTER RESET
S762 EXECUTE
S767 BACK LIGHT
FP-595
(FLEXIBLE)

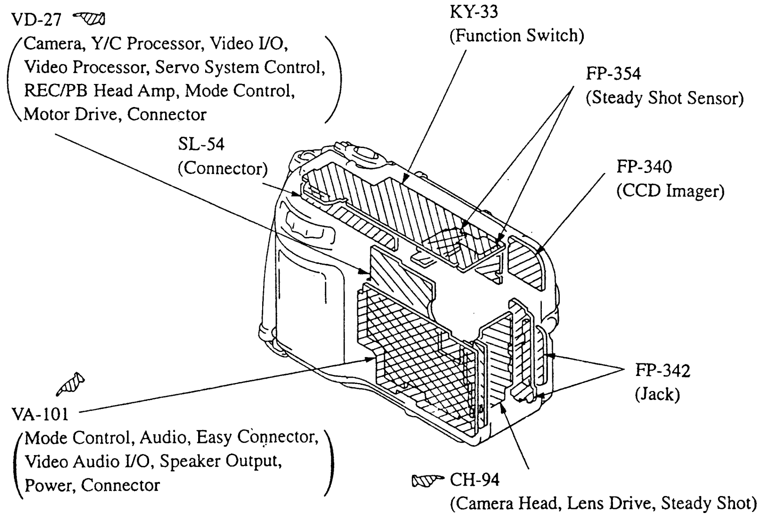
4-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

- For printed wiring boar
- PD-90 board is six-layer
of layers 2 to 5 have not
- Chip transistor

PD-90 (RGB DECODER, LCD CONTROL, DC/DC CONVERTER), FP-595 (FUNCTION SWITCH) PRINTED WIRING BOARD

– Ref. No.: PD-90, FP-595 BOARDS: 7,000series –


PD-90 BOARD (SIDE A)
C
B
A
1
2
3
4
5
S991
(LCD REVERSE)
IC805
IC806
IC951
X801
CN802
CN951
CN991
L952
L953
L802
L803
L901
C960
C951
Q955
①
②
③
④
⑤
⑦
05

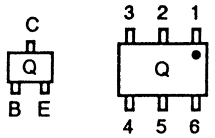

VD-27
(Camera, Y/C Processor, Video I/O, Video Processor, Servo System Control, REC/PB Head Amp, Mode Control, Motor Drive, Connector)
KY-33
(Function Switch)
FP-354
(Steady Shot Sensor)
SL-54
(Connector)
FP-340
(CCD Imager)
FP-342
(Jack)
VA-101
(Mode Control, Audio, Easy Connector, Video Audio I/O, Speaker Output, Power, Connector)
CH-94
(Camera Head, Lens Drive, Steady Shot)

PD-90 BORAD

C802	B-10	C841	B-1	C951	B-3	IC901	A-10	Q901	B-11
C803	C-3	C843	B-11	C952	A-8	IC902	A-11	Q902	A-3
C804	B-3	C844	B-11	C953	C-9	IC951	A-3	Q903	A-3
C806	B-3	C845	B-1	C954	A-9	IC952	A-8	Q904	A-3
C807	B-3	C846	B-11	C955	A-4			Q951	B-8
C808	C-10	C847	B-11	C956	B-8	L801	B-10	Q952	B-8
C809	B-2	C848	B-11	C957	A-4	L802	C-3	Q953	A-4
C811	C-10	C849	C-11	C958	B-8	L803	A-3	Q954	B-8
C812	B-10	C850	C-1	C959	A-9	L804	B-10	Q955	B-3
C813	B-2	C901	B-10	C960	C-3	L805	C-10	Q956	C-8
C814	B-10	C902	A-3	C961	C-9	L806	B-11	Q957	A-8
C815	B-3	C903	A-2	C963	A-8	L901	B-2	Q958	A-8
C816	C-2	C904	A-11	C965	B-8	L902	A-10	Q959	A-9
C817	C-2	C906	B-1	C967	A-6	L903	A-11	Q960	A-9
C819	B-2	C907	A-3			L904	A-11	Q961	A-9
C820	B-2	C908	A-2	CN801	C-9	L951	B-9	Q962	A-9
C821	B-10	C909	A-11	CN802	A-2	L953	C-4		
C823	B-10	C910	B-11	CN951	A-5			R801	C-3
C824	C-10	C912	B-11	CN991	A-1	Q802	C-3	R803	C-3
C825	B-10	C913	A-11			C803	B-3	R804	B-9
C827	C-1	C914	B-1	D801	C-10	Q804	B-3	R805	B-10
C828	C-10	C915	A-1	D803	B-11	Q805	B-3	R806	B-9
C829	C-10	C917	B-11	D901	A-2	Q806	C-3	R807	C-3
C830	C-1	C918	B-11	D903	B-2	Q807	B-2	R808	B-3
C831	B-11	C919	A-1	D905	A-11	Q808	C-2	R809	B-2
C833	C-1	C920	A-2	D951	A-1	Q809	B-11	R811	B-3
C834	C-1	C921	A-2	D954	A-8	Q810	C-11	R812	B-11
C835	C-11	C922	A-2			Q812	C-3	R813	B-2
C837	C-2	C923	A-11	IC801	B-9	Q815	C-11	R815	B-10
C838	B-9	C924	A-11	IC804	A-10	Q816	C-11	R816	C-10
C839	C-1	C925	B-2	IC805	B-2	Q818	B-10	R817	B-2

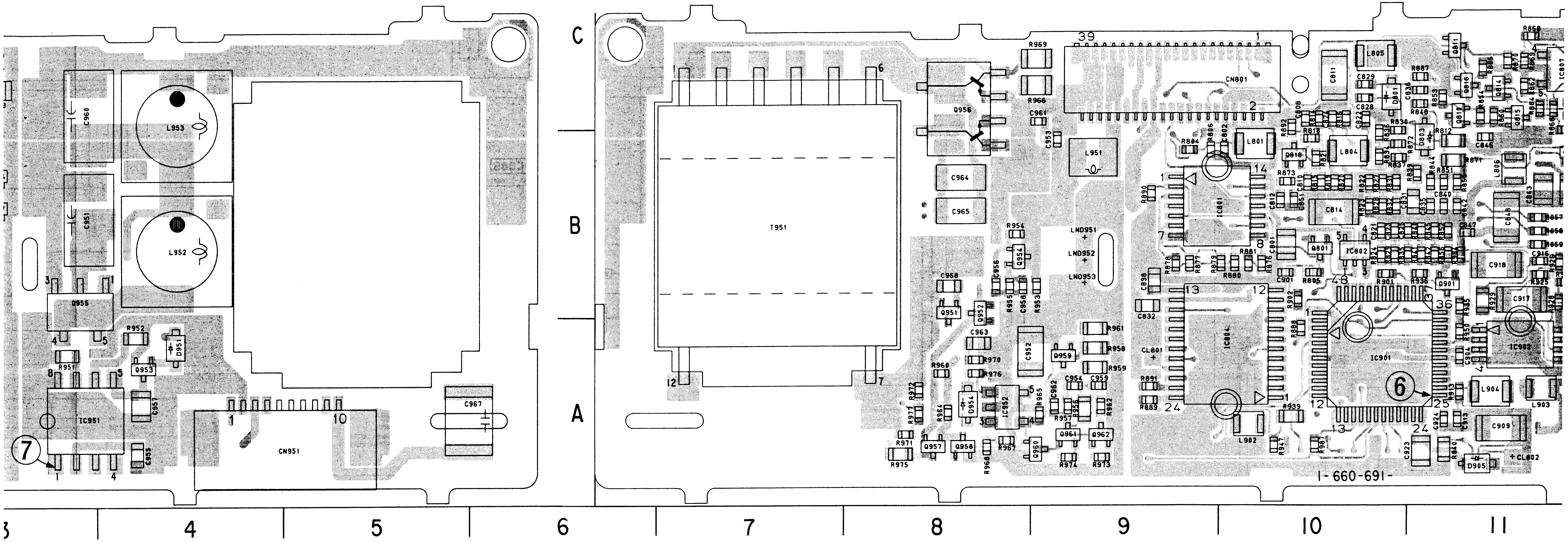
ICTION SWITCH) PRINTED WIRING BOARD

- **For printed wiring boards.**
- PD-90 board is six-layer print board. However, the patterns of layers 2 to 5 have not been included in the diagram.
- Chip transistor


C
Q
B E
3 2 1
Q
4 5 6

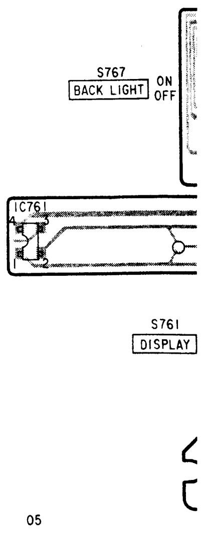
There are few cases that the part isn't mounted in this model is printed on this diagram.

PD-90 BOARD (SIDE B)


C
B
A
3
4
5
6
7
8
9
10
11
C960
L953
C951
L952
Q955
R952
D951
R951
Q953
IC951
C957
C955
⑦
CN951
1
10
C967
T951
Q956
R969
R966
C961
C953
L951
C964
C965
R954
Q954
LND951
LND952
LND953
C968
C956
R955
C958
R953
Q951
Q952
C963
C952
R961
R958
Q959
R959
R970
R976
R960
R972
R971
R964
D954
IC952
R965
C962
C954
C959
R957
R956
R962
Q961
Q962
Q957
Q958
R967
Q960
R968
R975
R974
R973
CN801
39
L801
R804
R806
C802
IC801
R890
R878
R877
R879
R876
R880
R881
C838
C832
CL801
IC804
R891
R889
L902
R939
R947
Q818
R873
L804
C814
Q801
IC802
C901
R805
R901
R936
Q901
IC901
⑥
R902
R888
C923
C924
R940
R913
L904
C909
D905
CL802
IC902
C917
C918
L903
C811
L805
C829
C828
D801
C836
R887
R853
R830
R840
D803
R812
R871
R851
C840
C846
L806
C848
C847
C807
R860
1-660-691-

PD-90 BORAD

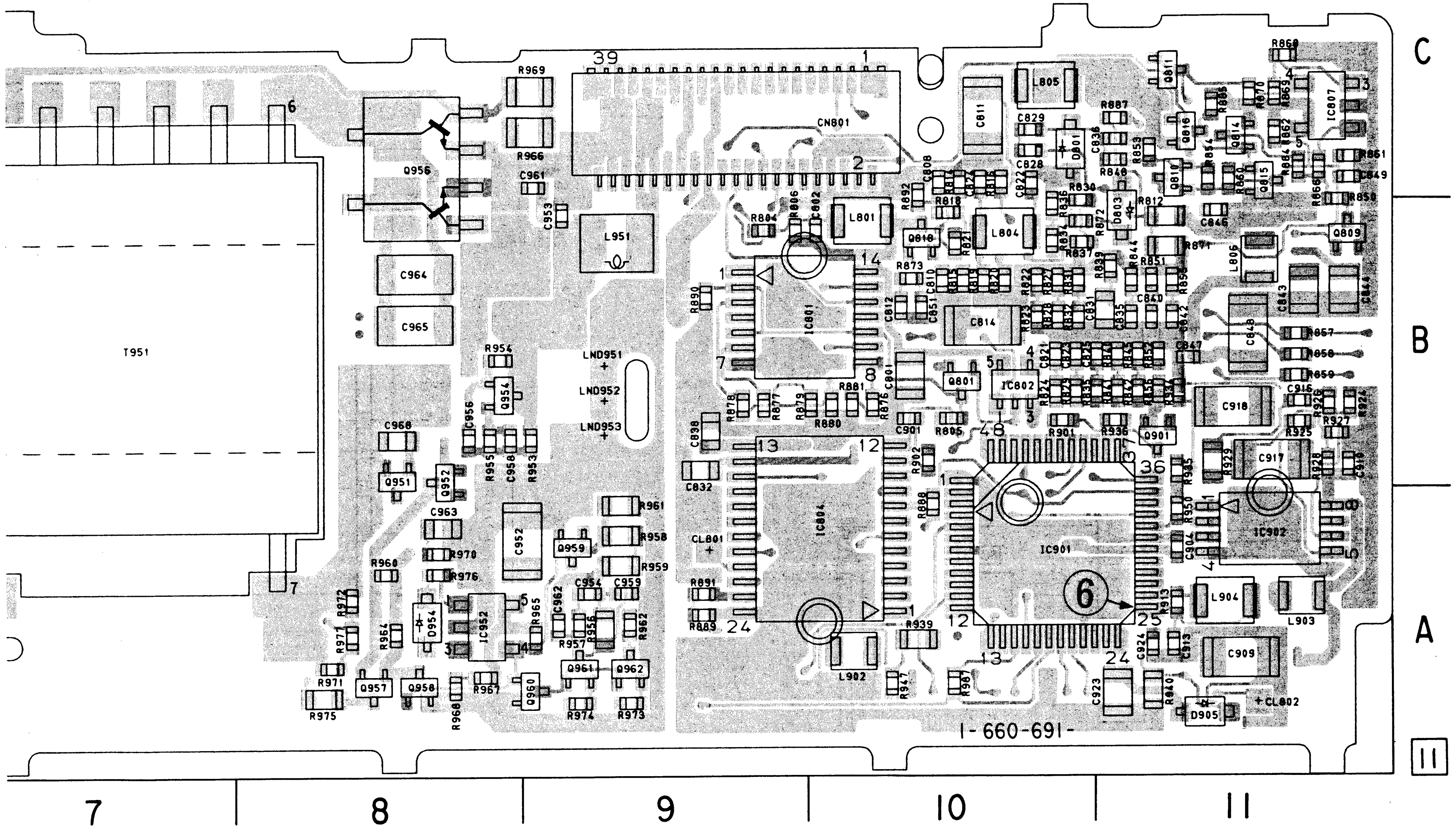
C802	B-10	C841	B-1	C951	B-3	IC901	A-10	Q901	B-11	R818	B-10	R864	C-1	R914	A-2	R956	A-9
C803	C-3	C843	B-11	C952	A-8	IC902	A-11	Q902	A-3	R819	B-10	R871	B-11	R915	A-2	R957	A-9
C804	B-3	C844	B-11	C953	C-9	IC951	A-3	Q903	A-3	R822	B-10	R873	B-10	R916	A-2	R958	A-9
C806	B-3	C845	B-1	C954	A-9	IC952	A-8	Q904	A-3	R823	B-10	R874	C-1	R917	A-1	R959	A-9
C807	B-3	C846	B-11	C955	A-4			Q951	B-8	R824	B-10	R876	B-10	R918	A-2	R960	A-8
C808	C-10	C847	B-11	C956	B-8	L801	B-10	Q952	B-8	R826	C-2	R877	B-9	R919	A-1	R961	A-9
C809	B-2	C848	B-11	C957	A-4	L802	C-3	Q953	A-4	R829	B-10	R878	B-9	R921	A-2	R962	A-9
C811	C-10	C849	C-11	C958	B-8	L803	A-3	Q954	B-8	R834	B-10	R879	B-10	R922	A-2	R965	A-9
C812	B-10	C850	C-1	C959	A-9	L804	B-10	Q955	B-3	R835	B-10	R880	B-10	R923	A-2	R966	C-9
C813	B-2	C901	B-10	C960	C-3	L805	C-10	Q956	C-8	R836	C-10	R881	B-10	R924	B-11	R967	A-8
C814	B-10	C902	A-3	C961	C-9	L806	B-11	Q957	A-8	R837	B-10	R882	B-2	R925	B-11	R968	A-8
C815	B-3	C903	A-2	C963	A-8	L901	B-2	Q958	A-8	R840	B-11	R885	C-11	R926	B-11	R969	C-9
C816	C-2	C904	A-11	C965	B-8	L902	A-10	Q959	A-9	R841	B-11	R887	C-11	R927	B-11	R970	A-8
C817	C-2	C906	B-1	C967	A-6	L903	A-11	Q960	A-9	R842	B-11	R888	A-10	R928	B-11	R971	A-8
C819	B-2	C907	A-3			L904	A-11	Q961	A-9	R843	C-1	R889	A-9	R929	B-11	R972	A-8
C820	B-2	C908	A-2	CN801	C-9	L951	B-9	Q962	A-9	R846	C-1	R890	B-9	R930	A-2	R973	A-9
C821	B-10	C909	A-11	CN802	A-2	L953	C-4			R848	B-11	R891	A-9	R931	A-2	R974	A-9
C823	B-10	C910	B-11	CN951	A-5			R801	C-3	R849	B-1	R892	C-10	R932	A-2	R975	A-8
C824	C-10	C912	B-11	CN991	A-1	Q802	C-3	R803	C-3	R850	C-11	R894	C-3	R933	A-2	R976	A-8
C825	B-10	C913	A-11			C803	B-3	R804	B-9	R851	C-11	R901	B-10	R936	B-11	R977	A-8
C827	C-1	C914	B-1	D801	C-10	Q804	B-3	R805	B-10	R852	B-11	R902	B-10	R937	A-2	R990	A-2
C828	C-10	C915	A-1	D803	B-11	Q805	B-3	R806	B-9	R853	C-11	R904	A-3	R938	A-2	R991	B-2
C829	C-10	C917	B-11	D901	A-2	Q806	C-3	R807	C-3	R855	B-11	R905	B-2	R939	A-10	R993	B-1
C830	C-1	C918	B-11	D903	B-2	Q807	B-2	R808	B-3	R856	B-11	R906	A-3	R940	A-11	R994	B-2
C831	B-11	C919	A-1	D905	A-11	Q808	C-2	R809	B-2	R857	B-11	R907	A-3	R947	A-10		
C833	C-1	C920	A-2	D951	A-1	Q809	B-11	R811	B-3	R858	B-11	R908	A-3	R948	A-3	S991	C-2
C834	C-1	C921	A-2	D954	A-8	Q810	C-11	R812	B-11	R859	B-11	R909	A-3	R951	A-1		
C835	C-11	C922	A-2			Q812	C-3	R813	B-2	R860	C-11	R910	A-3	R952	A-4	T951	B-7
C837	C-2	C923	A-11	IC801	B-9	Q815	C-11	R815	B-10	R861	C-11	R911	A-3	R953	B-9		
C838	B-9	C924	A-11	IC804	A-10	Q816	C-11	R816	C-10	R862	C-1	R912	A-3	R954	B-8	X801	B-1
C839	C-1	C925	B-2	IC805	B-2	Q818	B-10	R817	B-2	R863	C-1	R913	A-11	R955	B-8		


S767
BACK LIGHT
ON
OFF
IC761
S761
DISPLAY
05

ER, FUNCTION SWITCH

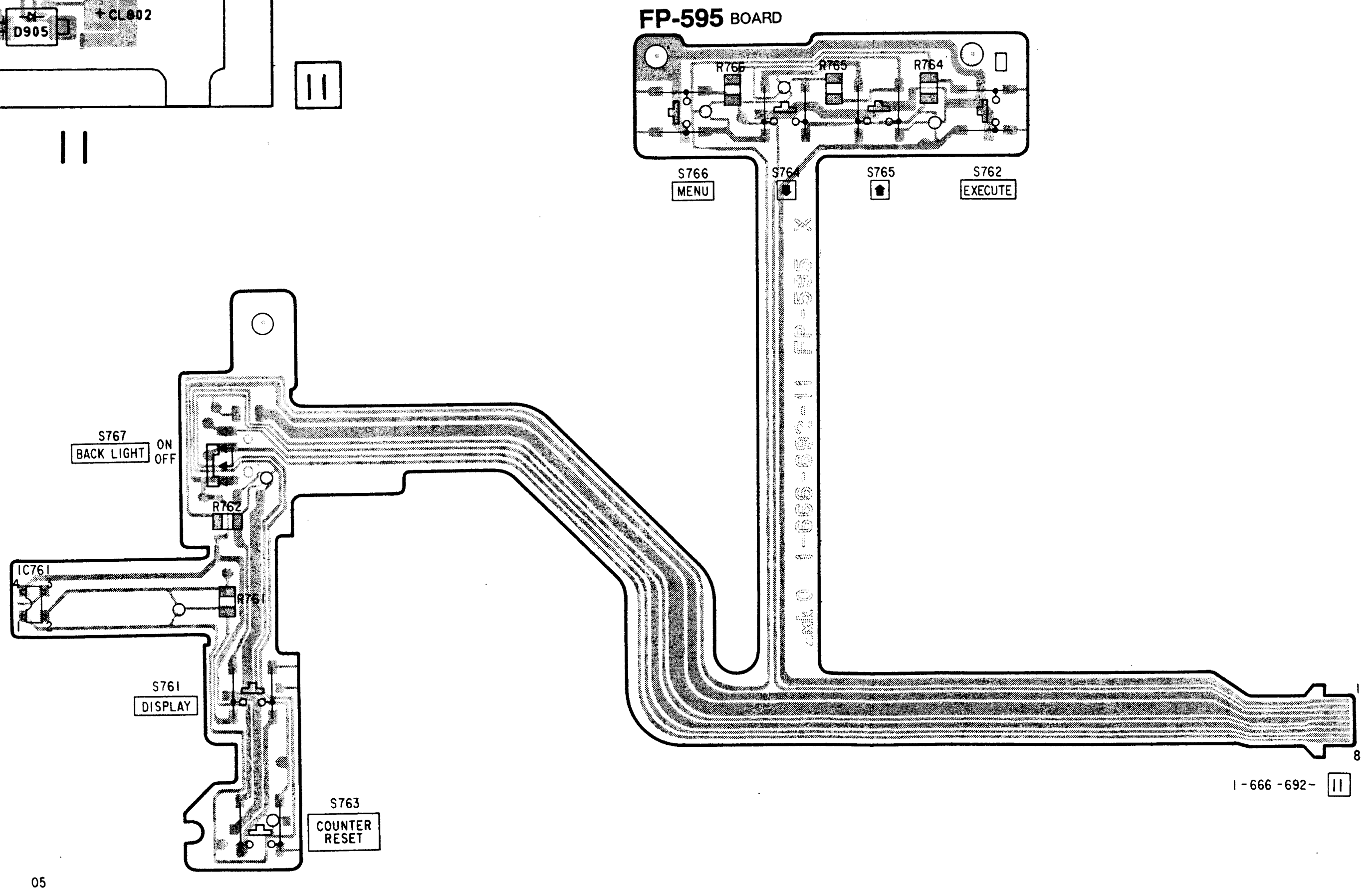
re few cases that the part isn't mounted in this model is printed on this diagram.

OARD (SIDE B)



C
B
A
7
8
9
10
11
1-660-691-
11
CN801
39
1
2
IC801
IC802
IC804
IC807
IC901
IC902
IC952
Q956
Q951
Q952
Q954
Q957
Q958
Q959
Q960
Q961
Q962
Q801
Q809
Q810
Q811
Q814
Q815
Q816
Q818
Q901
D801
D803
D905
D954
T951
L801
L804
L805
L806
L902
L903
L904
L951
LND951
LND952
LND953
CL801
CL802
C811
C814
C832
C838
C843
C848
C909
C917
C918
C923
C952
C960
C961
C963
C964
C965
R969
R966
R860
R887
R880
R881
R901
R936
R939
R957
R958
R959
R961
R968
R970
R971
R973
R974
R975
R976
6

FP-595 BOARD



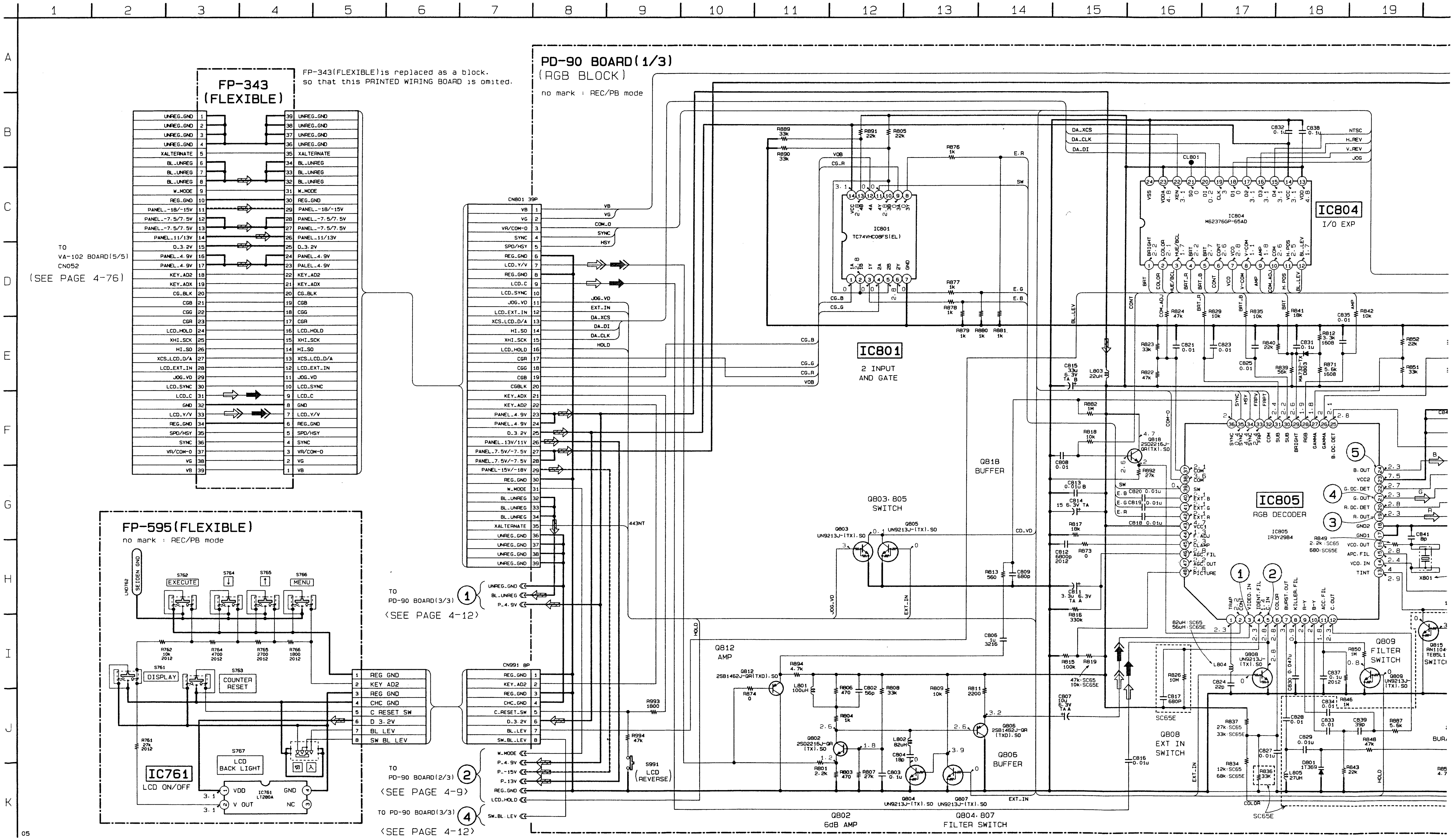
R766
R765
R764
S766
MENU
S764
S765
S762
EXECUTE
S767
BACK LIGHT
ON
OFF
R762
IC761
R761
S761
DISPLAY
S763
COUNTER RESET
1
8
1-666-692-
11
05

-9
-9
-9
-9
-8
-9
-9
-9
-9
-8
-8
-9
-8
-8
-8
-9
-9
-8
-8
-2
-2
-1
-2
-2
-7
-1

(SEE PAGE □□) : Pages on the original service manual.
<SEE PAGE □□> : Pages on this service manual.

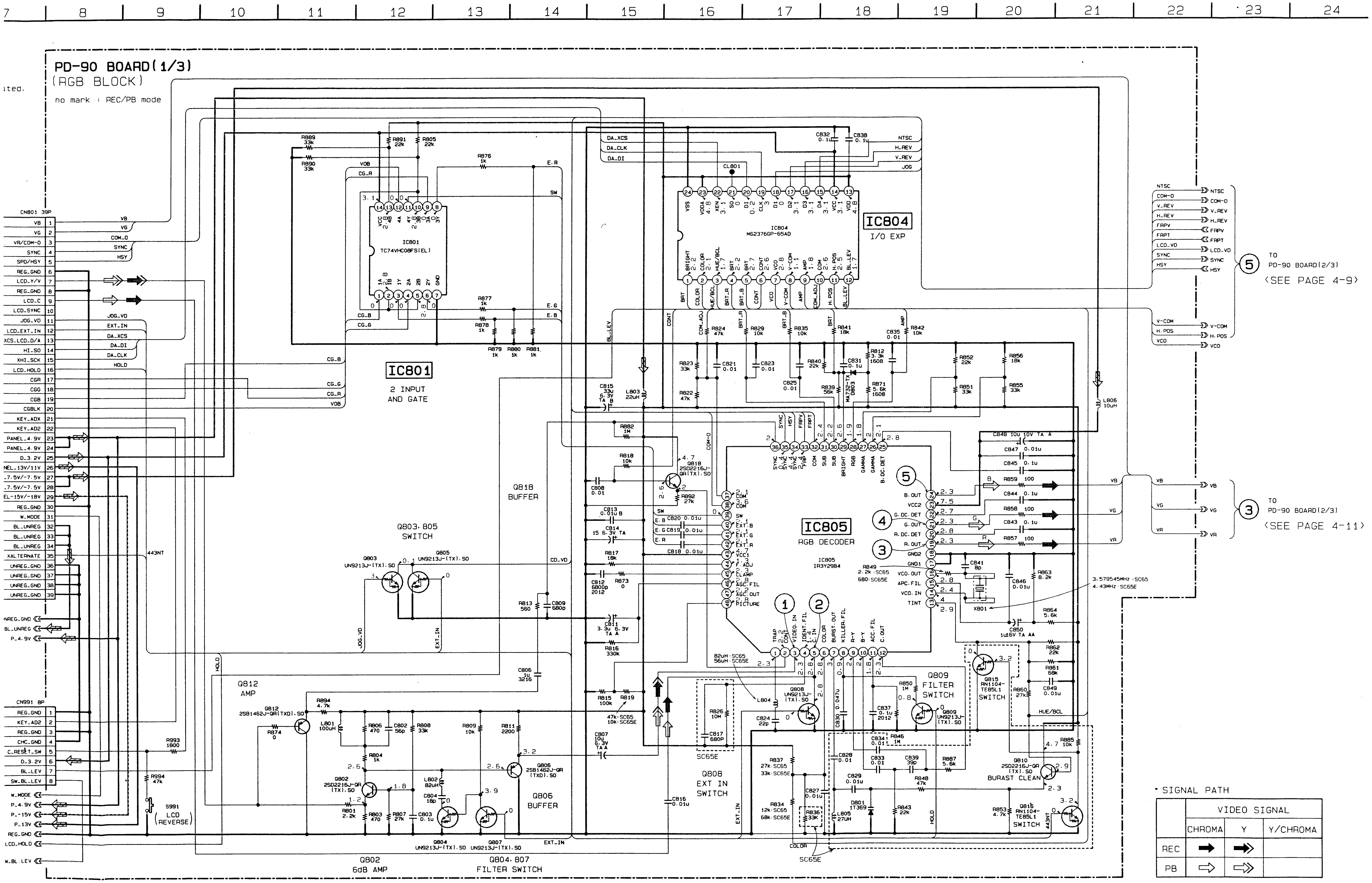
PD-90 (RGB DECODER),FP-595 (FUNCTION SWITCH) SCHEMATIC DIAGRAM

– Ref No. PD-90, FP-595 BOARDS: 7,000 series –



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
A B C D E F G H I J K
FP-343 (FLEXIBLE)
FP-343(FLEXIBLE)is replaced as a block. so that this PRINTED WIRING BOARD is omited.
TO VA-102 BOARD(5/5) CN052
(SEE PAGE 4-76)
PD-90 BOARD(1/3)
(RGB BLOCK)
no mark : REC/PB mode
CN801 39P
IC801
TC74VHC08FS(EL)
IC801
2 INPUT AND GATE
IC804
M62376GP-65AD
IC804
I/O EXP
IC805
IR3Y29B4
IC805
RGB DECODER
Q818
BUFFER
Q803, 805
SWITCH
Q812
AMP
Q802
6dB AMP
Q804, 807
FILTER SWITCH
Q806
BUFFER
Q808
EXT IN SWITCH
Q809
FILTER SWITCH
FP-595(FLEXIBLE)
no mark : REC/PB mode
S762 EXECUTE
S764
S765
S766 MENU
S761 DISPLAY
S763 COUNTER RESET
S767 LCD BACK LIGHT
IC761
LCD ON/OFF
CN991 8P
TO PD-90 BOARD(3/3) ① <SEE PAGE 4-12>
TO PD-90 BOARD(2/3) ② <SEE PAGE 4-9>
TO PD-90 BOARD(3/3) ④ <SEE PAGE 4-12>
S991 LCD REVERSE
05

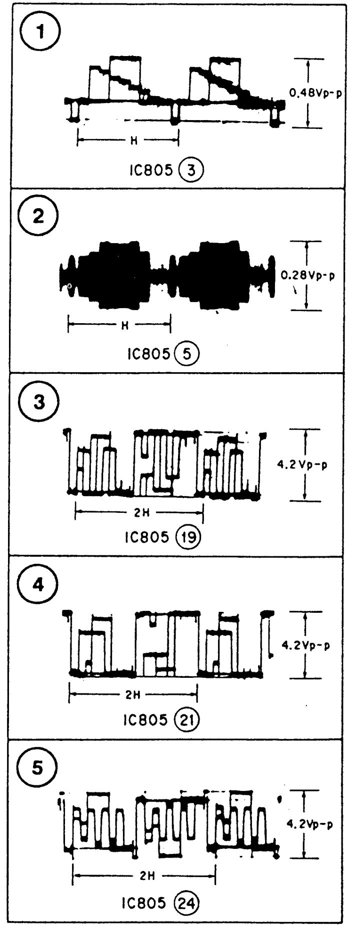
(SEE PAGE □□) : Pages on the original service manual.
<SEE PAGE □□> : Pages on this service manual.


PD-90 BOARD(1/3)
(RGB BLOCK)
no mark : REC/PB mode
CN801 39P
VB
VG
VR/COM-0
SYNC
SPD/HSY
REG_GND
LCD_Y/V
REG_GND
LCD_C
LCD_SYNC
JOG_VD
LCD_EXT_IN
XCS_LCD_D/A
HI_SO
XHI_SCK
LCD_HOLD
CGR
CGG
CGB
CGBLK
KEY_AD1
KEY_AD2
PANEL_4.9V
PANEL_4.9V
D.3.2V
EL-15V/-18V
REG_GND
W_MODE
BL_UNREG
XALTERNATE
UNREG_GND
IC801
TC74VHC08FS(EL)
IC801
2 INPUT AND GATE
IC804
M62376GP-65AD
IC804
I/O EXP
IC805
IR3Y29B4
IC805
RGB DECODER
Q818
BUFFER
Q803, 805
SWITCH
Q812
AMP
Q802
6dB AMP
Q804, 807
FILTER SWITCH
Q806
BUFFER
Q808
EXT IN
SWITCH
Q809
FILTER
SWITCH
Q815
SWITCH
Q810
BURAST CLEAN
Q816
SWITCH
CN991 8P
S991
LCD
REVERSE
X801
3.579545MHz : SC65
4.43MHz : SC65E
SC65E
TO
PD-90 BOARD(2/3)
<SEE PAGE 4-9>
TO
PD-90 BOARD(2/3)
<SEE PAGE 4-11>
NTSC
COM-O
V_REV
H_REV
FRPV
FRPT
LCD_VD
SYNC
HSY
V-COM
H.POS
VCO
VB
VG
VR

• SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡	⇛	
PB	⇨	⇨	

PD-90 BOARD (RGB BLOCK) REC/PB



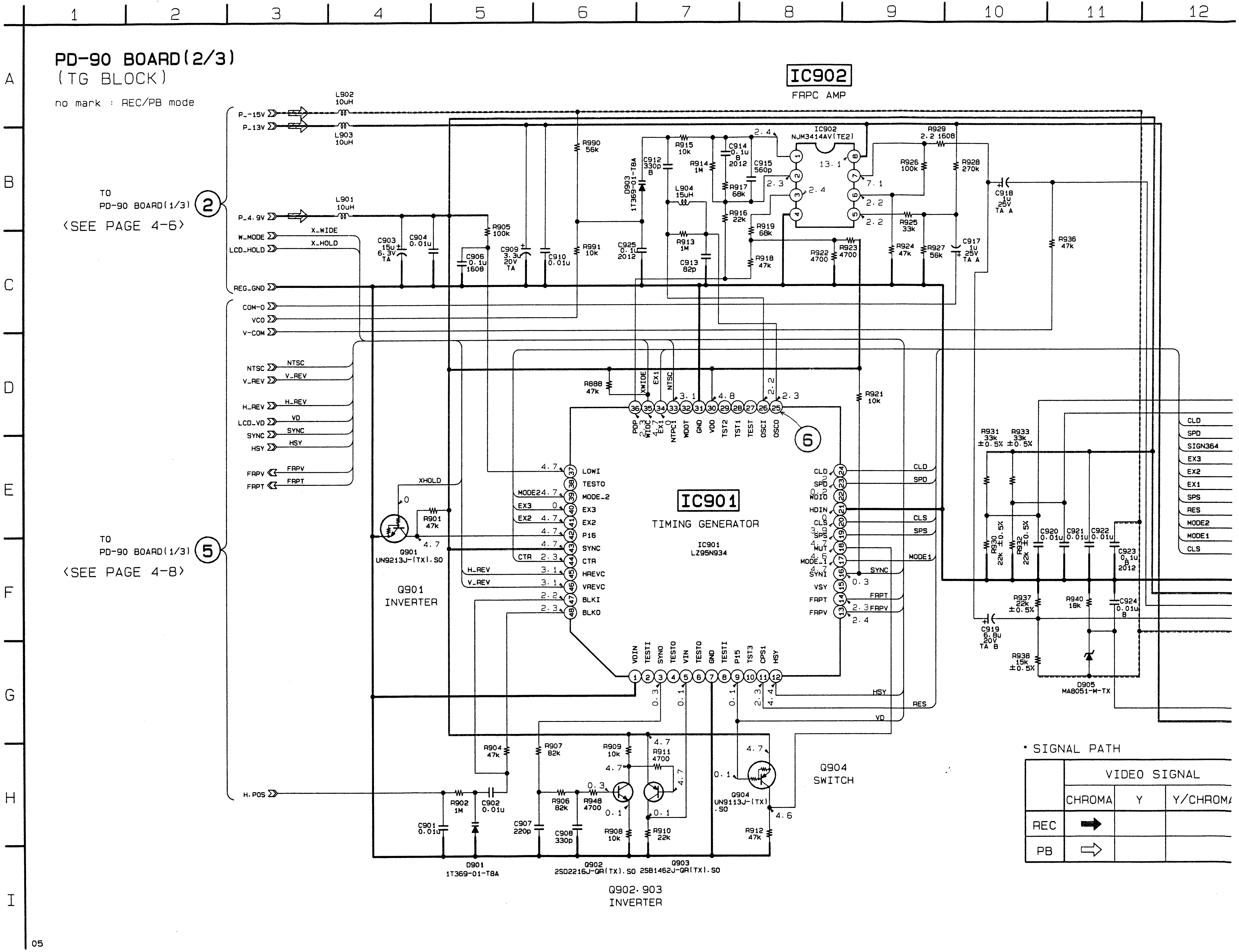
RGB DECODER, FUNCTION SWITCH
PD-90 (1/3), FP-595

PD-90 (LCD CONTROL) SCHEMATIC DIAGRAM

– Ref. No.: PD-90 BOARD: 7,000series –

• Refer to page 4-2 for Printed Wiring Board.

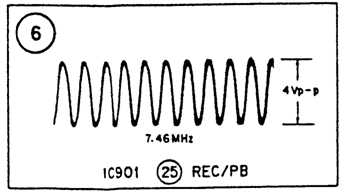
(SEE PAGE ☐☐) : Pages on the original service manual.
<SEE PAGE ☐☐> : Pages on this service manual.


1
2
3
4
5
6
7
8
9
10
11
12
A
B
C
D
E
F
G
H
I
PD-90 BOARD(2/3)
(TG BLOCK)
no mark : REC/PB mode
TO
PD-90 BOARD(1/3) ②
<SEE PAGE 4-6>
TO
PD-90 BOARD(1/3) ⑤
<SEE PAGE 4-8>
P_-15V
P_13V
P_4.9V
W_MODE
LCD_HOLD
REG_GND
COM-O
VCO
V-COM
NTSC
V_REV
H_REV
LCD_VD
SYNC
HSY
FRPV
FRPT
H.POS
X_WIDE
X_HOLD
L902 10uH
L903 10uH
L901 10uH
L904 15uH
IC902
FRPC AMP
IC902 NJM3414AV(TE2)
IC901
TIMING GENERATOR
IC901 LZ95N934
LOWI
TESTO
MODE_2
EX3
EX2
P16
SYNC
CTR
HREVC
VREVC
BLKI
BLKO
CLD
SPD
WDIO
HDIN
CLS
SPS
MUT
MODE_1
SYNI
VSY
FRPT
FRPV
POP
WIDE
EX1
NTPC
MODT
GND
VDD
TST2
TST1
TEST
OSCI
OSCO
VDIN
TESTI
SYNO
TESTO
VIN
TESTO
GND
TESTI
P15
TST3
CPS1
HSY
XWIDE
EX1
NTSC
MODE1
⑥
Q901
UN9213J-(TX).SO
Q901
INVERTER
Q904
UN9113J-(TX).SO
Q904
SWITCH
Q902 2SD2216J-QR(TX).SO
Q903 2SB1462J-QR(TX).SO
Q902, 903
INVERTER
D901 1T369-01-T8A
D903 1T369-01-T8A
D905 MA8051-M-TX
R990 56k
R915 10k
R914 1M
R917 68k
R916 22k
R919 68k
R918 47k
R913 1M
R905 100k
R991 10k
R888 47k
R921 10k
R922 4700
R923 4700
R924 47k
R925 33k
R926 100k
R927 56k
R928 270k
R929 2.2 1608
R936 47k
R931 33k ±0.5%
R933 33k ±0.5%
R930 22k ±0.5%
R932 22k ±0.5%
R937 22k ±0.5%
R938 15k ±0.5%
R940 18k
R901 47k
R902 1M
R904 47k
R907 82k
R906 82k
R948 4700
R909 10k
R911 4700
R908 10k
R910 22k
R912 47k
C903 15u 6.3V TA
C904 0.01u
C906 0.1u 1608
C909 3.3u 20V TA
C910 0.01u
C912 330p B
C914 0.1u B 2012
C915 560p
C925 0.1u 2012
C913 82p
C917 1u 25V TA A
C918 1u 25V TA A
C919 6.8u 20V TA B
C920 0.01u
C921 0.01u
C922 0.01u
C923 0.1u 2012
C924 0.01u B
C901 0.01u
C902 0.01u
C907 220p
C908 330p
CLD
SPD
SIGN364
EX3
EX2
EX1
SPS
RES
MODE2
MODE1
CLS
HSY
RES
VD
XHOLD
H_REV
V_REV
MODE2
CTR
FRPT
FRPV
SYNC
2.4
13.1
7.1
2.3
2.4
2.2
2.2
3.1
4.8
2.2
2.3
4.7
4.7
0
4.7
4.7
4.7
2.3
3.1
3.1
2.2
2.3
0.3
2.3
2.4
0.3
0.1
0.1
2.3
4.4
0
4.7
4.7
4.7
0.3
0.1
4.7
0.1
4.6
4.7

• SIGNAL PATH

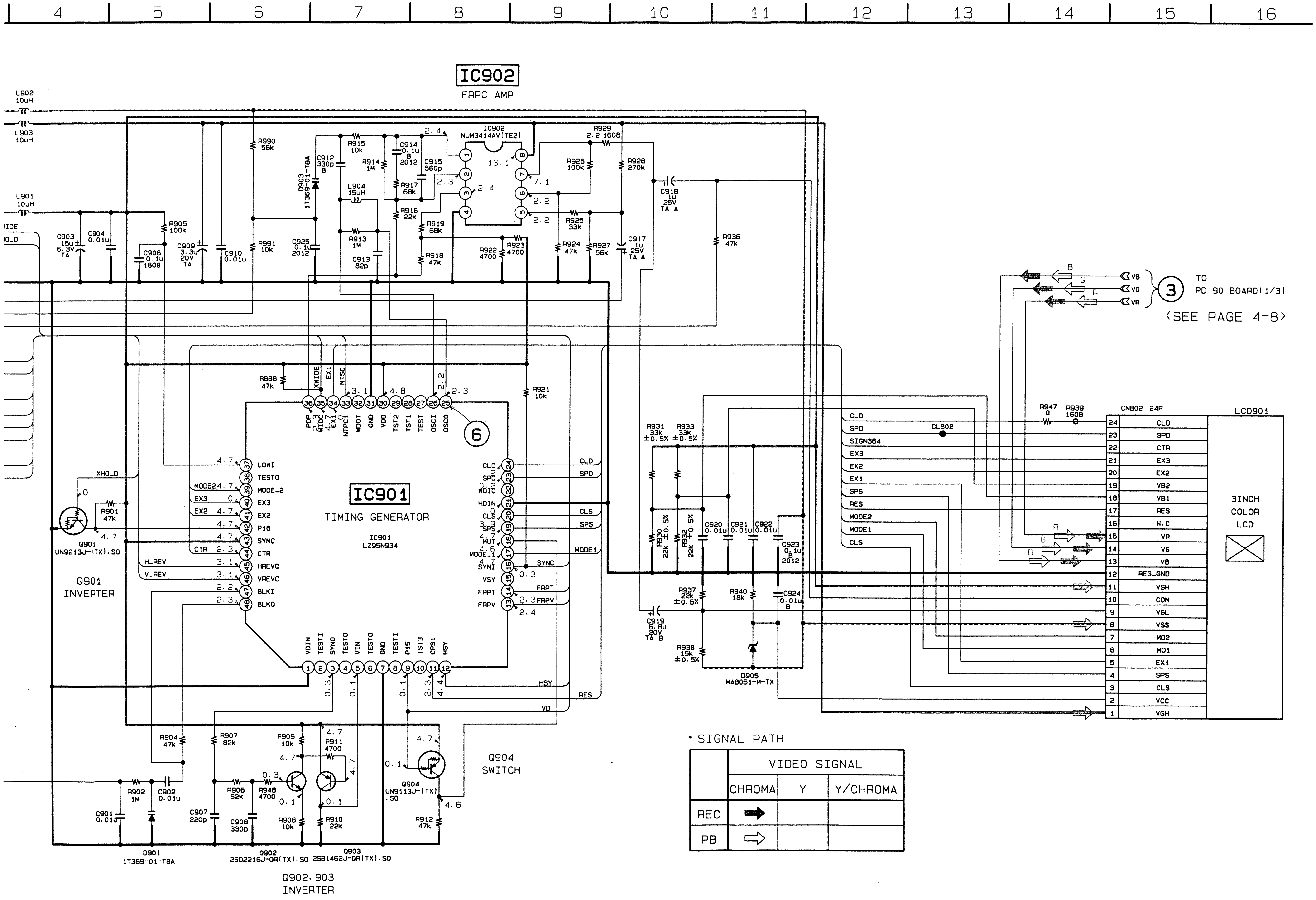
	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROM
REC	➡		
PB	⇨		

PD-90 BOARD (TG BLOCK)



05

(SEE PAGE □□) : Pages on the original service manual.
<SEE PAGE □□> : Pages on this service manual.

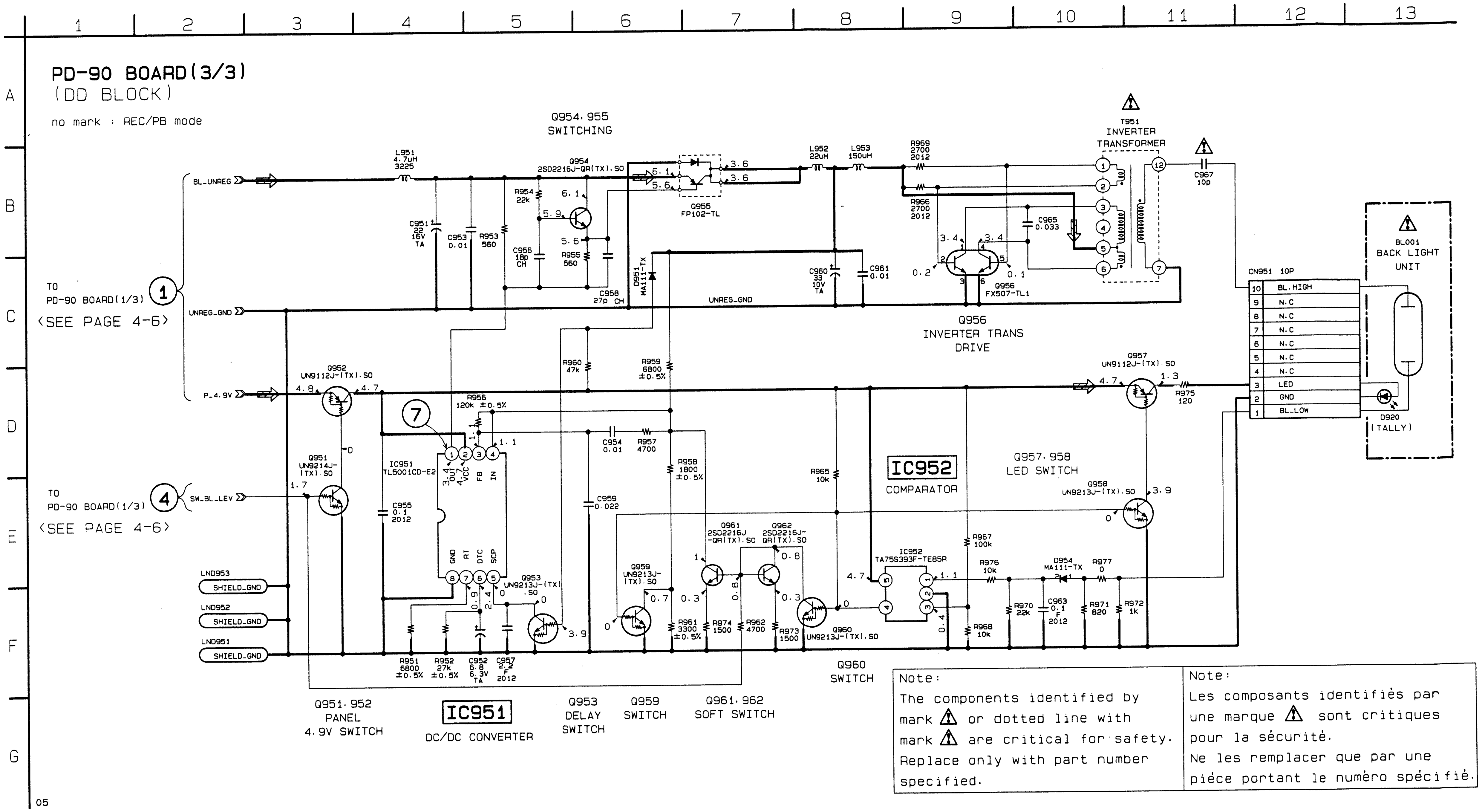

4
5
6
7
8
9
10
11
12
13
14
15
16
IC902
FRPC AMP
IC902
NJM3414AV(TE2)
L902 10uH
L903 10uH
L901 10uH
C903 15u 6.3V TA
C904 0.01u
C906 0.1u 1608
R905 100k
C909 3.3u 20V TA
C910 0.01u
R990 56k
R991 10k
D903 1T369-01-T8A
C912 330p B
C925 0.1u 2012
R915 10k
R914 1M
C914 0.1u B 2012
C915 560p
R917 68k
R916 22k
L904 15uH
R913 1M
C913 82p
R919 68k
R918 47k
R922 4700
R923 4700
R929 2.2 1608
R926 100k
R928 270k
R925 33k
R924 47k
R927 56k
C917 1u 25V TA A
C918 1u 25V TA A
R936 47k
R888 47k
R921 10k
IC901
TIMING GENERATOR
IC901
LZ95N934
XWIDE
EX1
NTSC
POP
WIDE
EX1
NTPC
MOOT
GND
VDD
TST2
TST1
TEST
OSCI
OSCO
LOWI
TESTO
MODE_2
EX3
EX2
P16
SYNC
CTR
HREVC
VREVC
BLKI
BLKO
CLD
SPD
WDIO
HDIN
CLS
SPS
MODE_1
MUT
SYNI
VSY
FRPT
FRPV
VDIN
TESTI
SYNO
TESTO
VIN
TESTO
GND
TESTI
P15
TST3
CPSI
HSY
XHOLD
MODE2
EX3
EX2
CTR
H_REV
V_REV
Q901
UN9213J-(TX).SO
Q901
INVERTER
R901 47k
R904 47k
R907 82k
R909 10k
R911 4700
R902 1M
C902 0.01u
C901 0.01u
D901
1T369-01-T8A
R906 82k
R948 4700
C907 220p
C908 330p
R908 10k
R910 22k
Q902
2SD2216J-QR(TX).SO
Q903
2SB1462J-QR(TX).SO
Q902, 903
INVERTER
Q904
UN9113J-(TX).SO
Q904
SWITCH
R912 47k
HSY
RES
VD
CLS
SPS
MODE1
SYNC
FRPT
FRPV
6
TO
3
PD-90 BOARD(1/3)
<SEE PAGE 4-8>
VB
VG
VR
B
G
R
R931 33k ±0.5%
R933 33k ±0.5%
R930 22k ±0.5%
R932 22k ±0.5%
C920 0.01u
C921 0.01u
C922 0.01u
C923 0.1u B 2012
C919 6.8u 20V TA B
R937 22k ±0.5%
R940 18k
C924 0.01u B
R938 15k ±0.5%
D905
MA8051-M-TX
CL802
R947 0
R939 1608
CN802 24P
LCD901
3INCH COLOR LCD
CLD
SPD
SIGN364
EX3
EX2
EX1
SPS
RES
MODE2
MODE1
CLS
24 CLD
23 SPD
22 CTR
21 EX3
20 EX2
19 VB2
18 VB1
17 RES
16 N.C
15 VR
14 VG
13 VB
12 REG_GND
11 VSH
10 COM
9 VGL
8 VSS
7 MO2
6 MO1
5 EX1
4 SPS
3 CLS
2 VCC
1 VGH
• SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡		
PB	⇨		

PD-90 (DC/DC CONVERTER) SCHEMATIC DIAGRAM

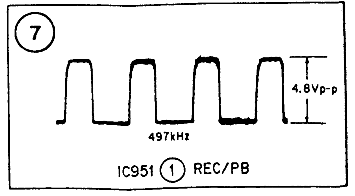
– Ref. No.: PD-90 BOARD: 7,000 series –
- Refer to page 4-2 for Printed Wiring Board.

(SEE PAGE □□) : Pages on the original service manual.
<SEE PAGE □□> : Pages on this service manual.


1 2 3 4 5 6 7 8 9 10 11 12 13
A B C D E F G
PD-90 BOARD(3/3)
(DD BLOCK)
no mark : REC/PB mode
Q954, 955 SWITCHING
TO PD-90 BOARD(1/3) ① <SEE PAGE 4-6>
TO PD-90 BOARD(1/3) ④ <SEE PAGE 4-6>
BL_UNREG
UNREG_GND
P_4.9V
SW_BL_LEV
L951 4.7uH 3225
C951 22 16V TA
C953 0.01
R953 560
R954 22k
C956 18p CH
R955 560
C958 27p CH
Q954 2SD2216J-QR(TX).SO
Q955 FP102-TL
D951 MA111-TX
L952 22uH
L953 150uH
R969 2700 2012
R966 2700 2012
C965 0.033
C960 33 10V TA
C961 0.01
UNREG_GND
Q956 FX507-TL1
Q956 INVERTER TRANS DRIVE
T951 INVERTER TRANSFORMER
C967 10p
CN951 10P
10 BL.HIGH
9 N.C
8 N.C
7 N.C
6 N.C
5 N.C
4 N.C
3 LED
2 GND
1 BL.LOW
BL001 BACK LIGHT UNIT
D920 (TALLY)
Q957 UN9112J-(TX).SO
R975 120
Q952 UN9112J-(TX).SO
Q951 UN9214J-(TX).SO
R956 120k ±0.5%
R960 47k
R959 6800 ±0.5%
⑦
IC951 TL5001CD-E2
OUT VCC FB IN
GND RT DTC SCP
C954 0.01
R957 4700
R958 1800 ±0.5%
C959 0.022
C955 0.1 2012
R965 10k
IC952 COMPARATOR
Q957, 958 LED SWITCH
Q958 UN9213J-(TX).SO
Q961 2SD2216J-QR(TX).SO
Q962 2SD2216J-QR(TX).SO
Q959 UN9213J-(TX).SO
Q953 UN9213J-(TX).SO
Q960 UN9213J-(TX).SO
IC952 TA75S393F-TE85R
R967 100k
R976 10k
D954 MA111-TX
R977 0
R970 22k
C963 0.1 F 2012
R971 820
R972 1k
R968 10k
R961 3300 ±0.5%
R974 1500
R962 4700
R973 1500
R951 6800 ±0.5%
R952 27k ±0.5%
C952 6.8 6.3V TA
C957 2.2 F 2012
LND953 SHIELD_GND
LND952 SHIELD_GND
LND951 SHIELD_GND
Q951, 952 PANEL 4.9V SWITCH
IC951 DC/DC CONVERTER
Q953 DELAY SWITCH
Q959 SWITCH
Q961, 962 SOFT SWITCH
Q960 SWITCH
05

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

PD-90 BOARD (DD BLOCK)



SECTION 5
REPAIR PARTS LIST

5-1. EXPLODED VIEWS

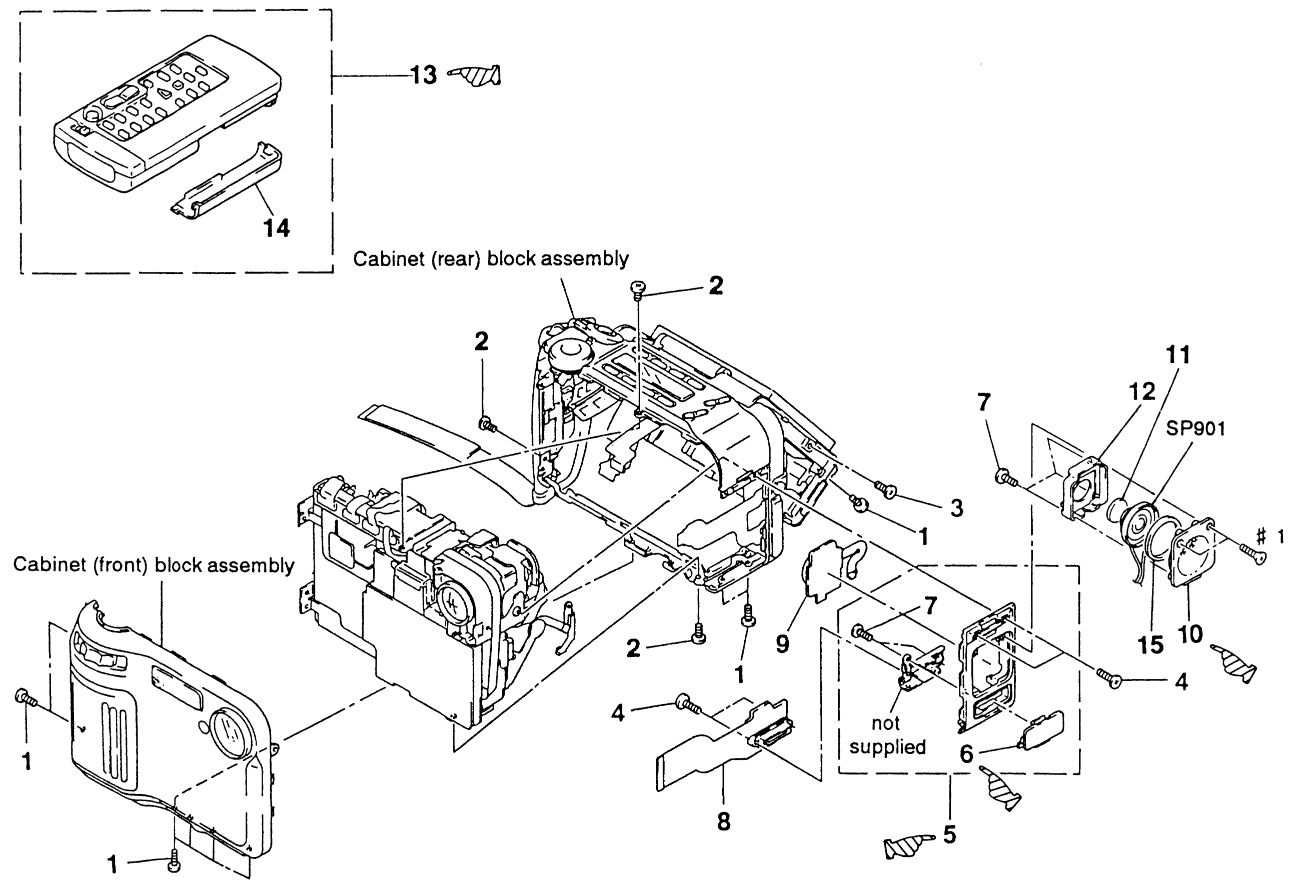
NOTE:
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Accessories and packing materials are given in the last of the electrical parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiquens pour la sécurité.
Ne les remplacer que par une pièce portant le neméro spécifié.

5-1-1. CABINET (HORIZONTAL) ASSEMBLY (See original service manual page 5-1)

☛: Points changed parts.

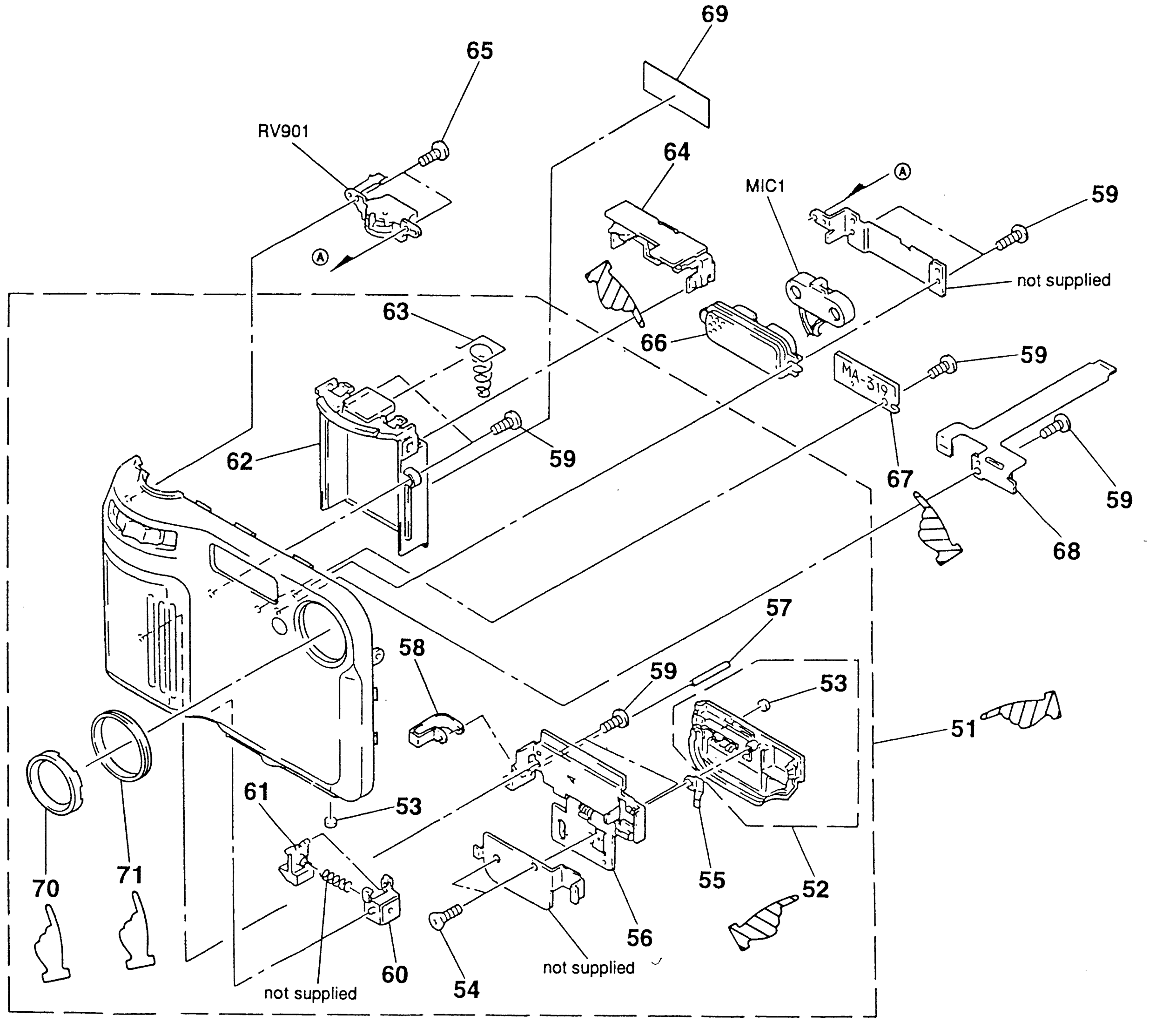

13
14
Cabinet (rear) block assembly
2
2
11
12
7
SP901
3
1
# 1
Cabinet (front) block assembly
7
9
2
1
15
10
4
4
not supplied
6
1
8
5
1

CCD-SC55/SC55E				CCD-SC65/SC65E			
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
5	X-3946-051-1	CABINET (SIDE) ASSY		5	X-3947-637-1	CABINET (HORIZONTAL) ASSY	
6	3-969-372-01	COVER, CONNECTOR		6	3-969-372-21	COVER, CONNECTOR	
10	3-969-494-01	CABINET (SP)		10	3-969-494-21	CABINET (SP)	
13	8-917-540-90	REMOCON RMT-715//M SET (SC55/SC55E: E, AUS, HK)		13	8-917-593-90	REMOCON, SONY RMT-717 SET	
13	8-917-541-90	REMOCON RMT-716//M SET (SC55E: AEP, UK)					

5-1-2. CABINET (FRONT) ASSEMBLY (See original service manual page 5-2)

☛: Points changed parts.

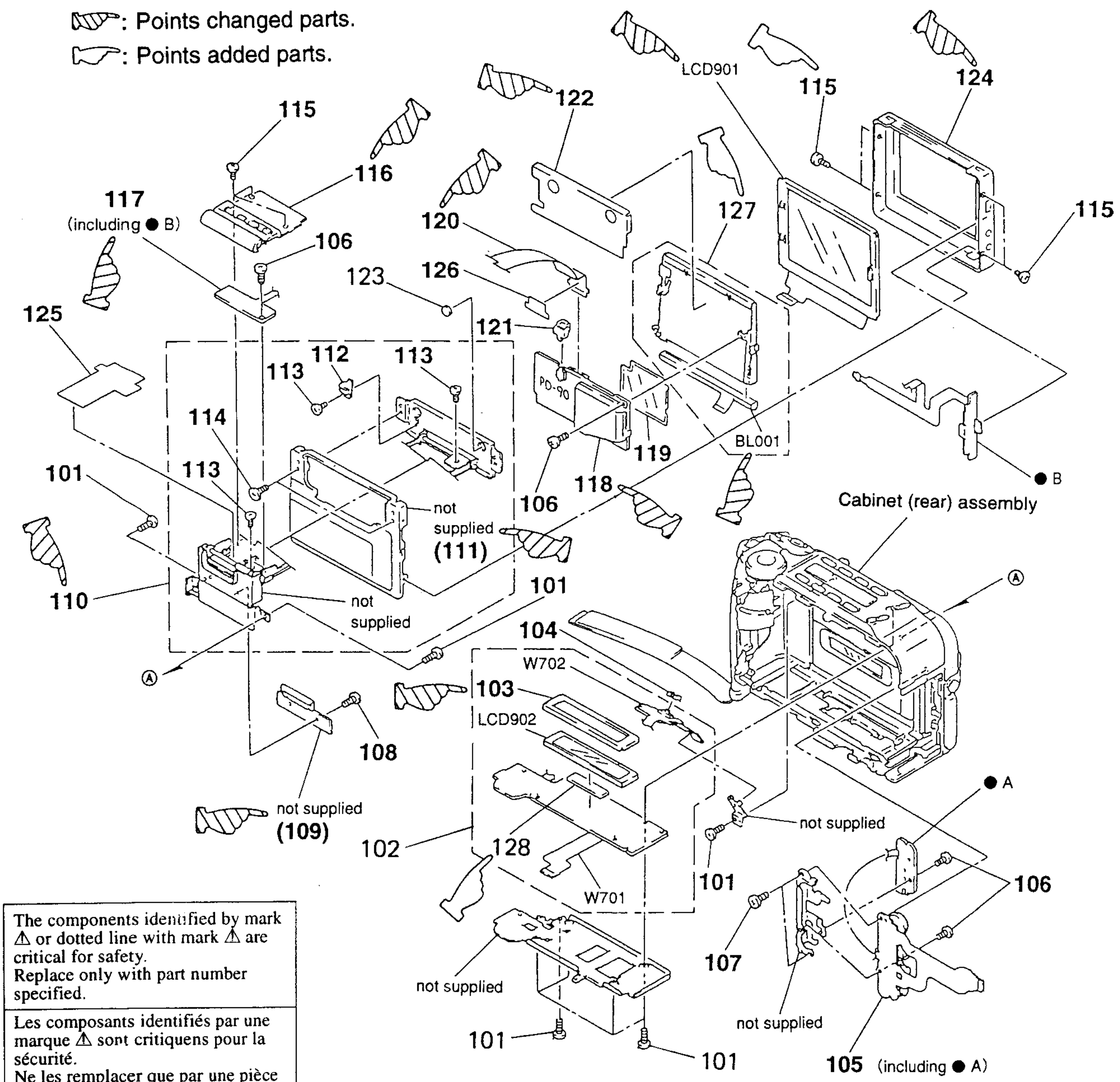
☞: Points added parts.


69
65
RV901
64
MIC1
Ⓐ
59
Ⓐ
not supplied
63
66
59
62
59
MA-319
67
59
68
57
58
59
53
51
61
53
70
71
55
52
56
60
54
not supplied
not supplied

CCD-SC55/SC55E				CCD-SC65/SC65E			
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	X-3946-311-1	CABINET (FRONT) ASSY (SC55E)		51	X-3947-720-1	CABINET (FRONT) ASSY (SC65E)	
51	X-3946-503-1	CABINET (FRONT) ASSY (SC55)		51	X-3947-747-1	CABINET (FRONT) ASSY (SC65)	
52	X-3946-529-1	BATTERY (LID) ASSY		52	X-3947-721-1	LID ASSY, BATTERY	
66	X-3946-046-1	HOLDER ASSY, MICROPHONE		66	X-3947-636-1	HOLDER ASSY, MICROPHONE	
*67	A-7072-803-A	MA-260 BOARD, COMPLETE (SC55E)		* 67	A-7073-288-A	MA-319 BOARD, COMPLETE (SC65E)	
*67	A-7072-833-A	MA-260 BOARD, COMPLETE (SC55)		* 67	A-7073-298-A	MA-319 BOARD, COMPLETE (SC65)	
				70	3-976-970-01	FRAME, LENS WINDOW	
				71	3-976-971-01	RING (M), LENS	

5-1-3. LCD ASSEMBLY
(See original service manual page 5-3)

☛: Points changed parts.
☞: Points added parts.



LCD901
115
124
122
115
116
117
(including ● B)
127
115
120
106
123
126
125
121
113
112
113
114
PD-90
119
BL001
101
113
118
● B
106
Cabinet (rear) assembly
not supplied
(111)
110
not supplied
101
Ⓐ
104
W702
Ⓐ
103
LCD902
108
● A
not supplied
(109)
102
128
not supplied
106
W701
101
107
not supplied
not supplied
101
101
105 (including ● A)

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiquens pour la sécurité.
Ne les remplacer que par une pièce portant le neméro spécifié.

CCD-SC55/SC55E

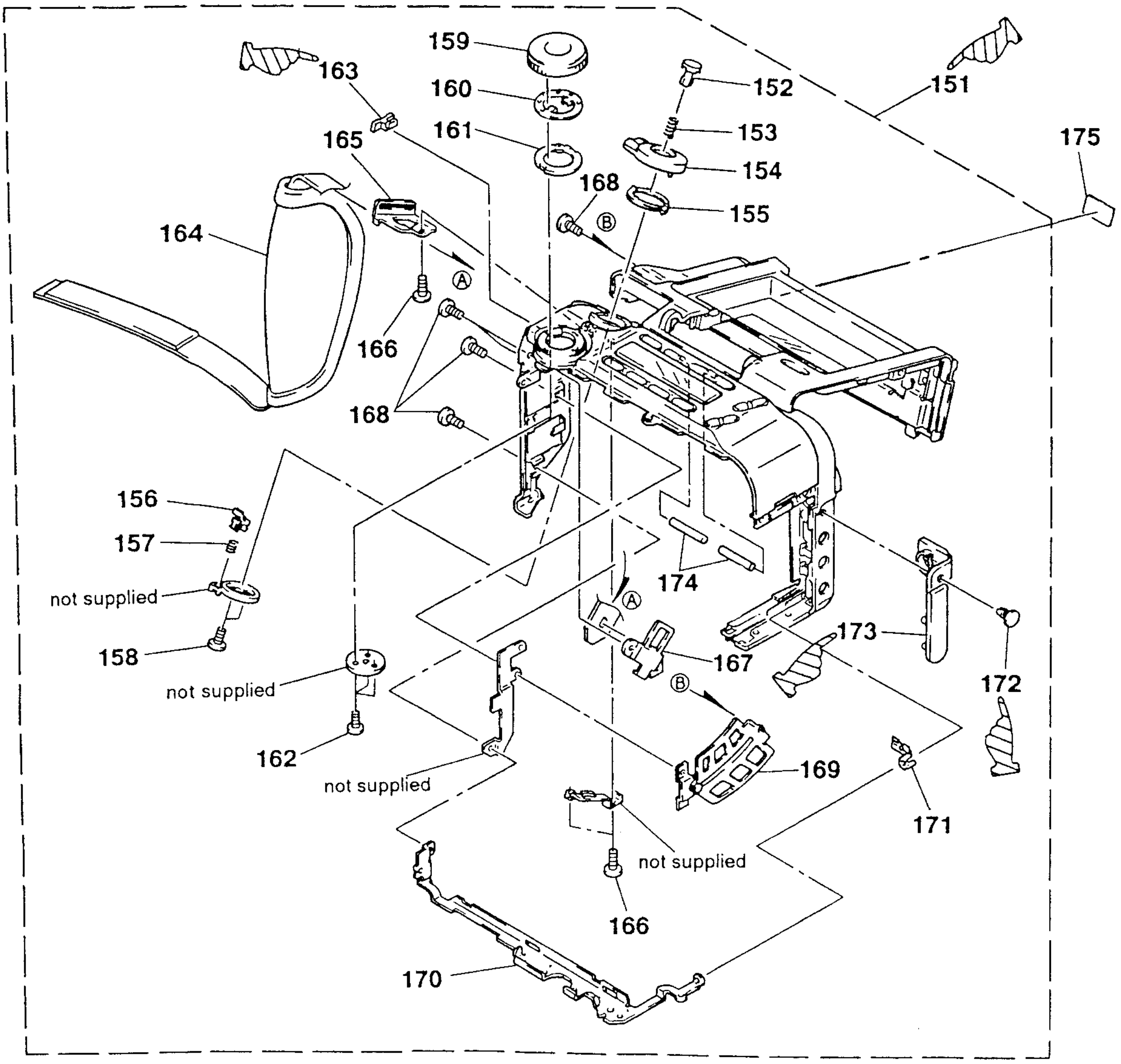
Ref. No.	Part No.	Description	Remark
* 103	3-969-467-01	HOLDER, LCD	
* 109	3-970-460-01	COVER, FLEXIBLE	
110	X-3946-053-1	CABINET (REAR) ASSY, LCD	
111	3-969-399-01	CABINET (REAR A), LCD	
116	X-3946-308-1	HINGE (F) ASSY	
117	A-7072-583-A	FP-345 BOARD, COMPLETE	
* 118	A-7066-855-A	PD-64 BOARD, COMPLETE (SC55E)	
* 118	A-7092-901-A	PD-64 BOARD, COMPLETE (SC55)	
120	1-660-655-11	FP-343 FLEXIBLE BOARD	
* 122	3-970-456-01	COVER, LIGHT GUIDE PLATE	
124	X-3946-307-1	CABINET (FRONT) ASSY, LCD	
⚠BL001	1-517-525-21	TUBE, FLUORESCENT, COLD CATHODE	
LCD901	1-801-190-11	DISPLAY MODUL, LIQUID CRISTAL	

CCD-SC65/SC65E

Ref. No.	Part No.	Description	Remark
* 103	3-969-467-03	HOLDER, LCD	
		not supplied	
110	X-3947-630-1	CABINET (REAR) ASSY, LCD	
116	X-3947-719-1	HINGE (F) ASSY	
		not supplied	
117	A-7073-262-A	FP-595 BOARD, COMPLETE	
* 118	A-7093-330-A	PD-90 BOARD, COMPLETE (SC65E)	
* 118	A-7093-337-A	PD-90 BOARD, COMPLETE (SC65)	
120	1-660-655-12	FP-343 FLEXIBLE BOARD	
* 122	3-976-972-01	COVER (M), LIGHT GUIDE PLATE	
124	X-3947-718-1	CABINET (FRONT) ASSY, LCD	
127	X-3947-544-1	PLATE ASSY, LIGHT GUIDE	
128	3-973-600-01	CUSHION, INDICATION (LCD)	
⚠BL001	1-517-696-11	TUBE, FLUORESCENT	
LCD901	1-801-669-21	MODULE, CRYSTAL INDICATION (LQ3FN17)	

5-1-4. CABINET (REAR) ASSEMBLY
(See original service manual page 5-4)

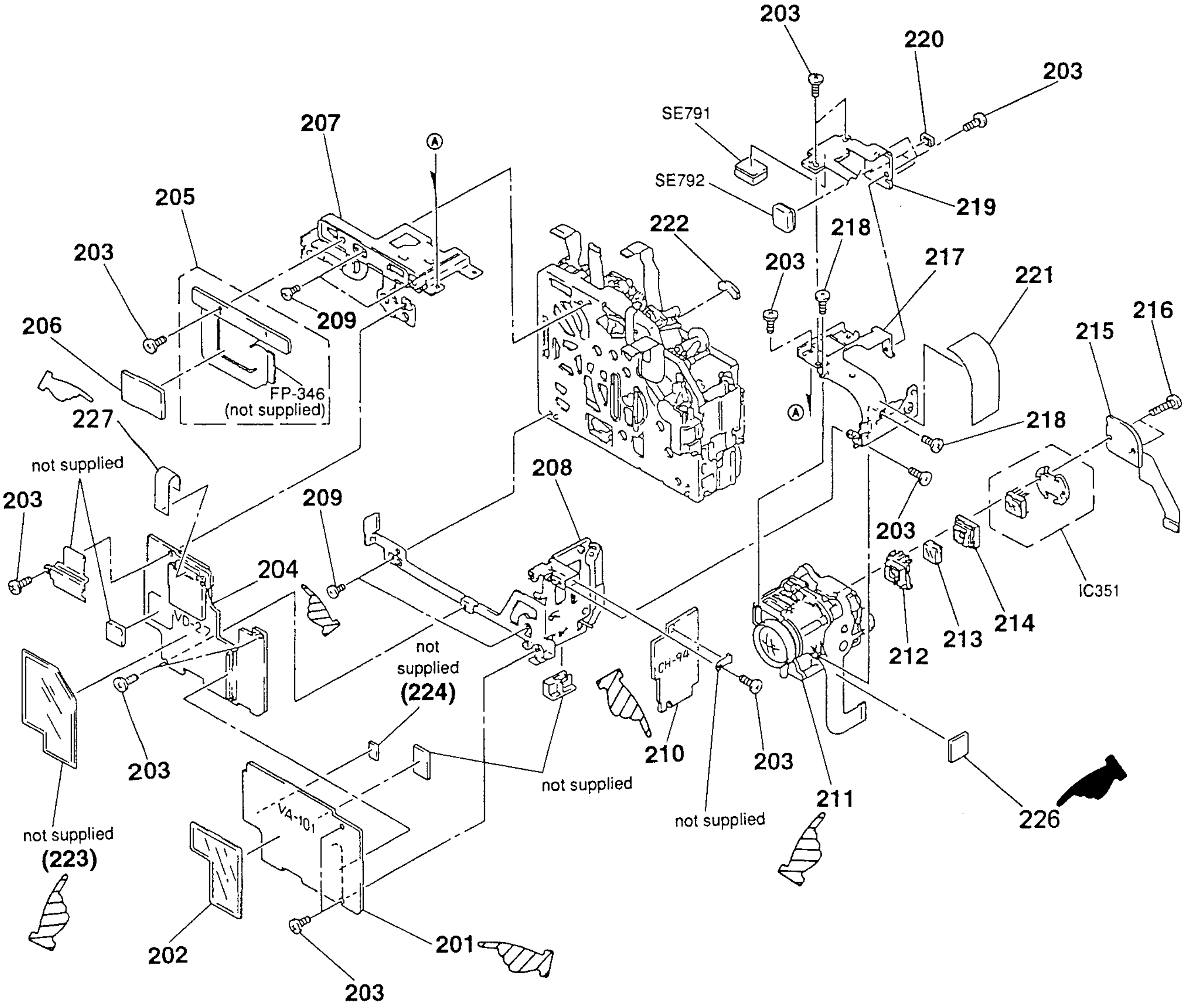
☞: Points changed parts.


159
160
161
163
165
164
152
153
154
155
151
175
168
Ⓑ
Ⓐ
166
168
156
157
not supplied
158
not supplied
162
not supplied
174
Ⓐ
167
Ⓑ
173
172
169
171
not supplied
166
170

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
CCD-SC55/SC55E				**CCD-SC65/SC65E**			
151	X-3946-309-1	CABINET (REAR) ASSY (SC55E: AEP, UK)		151	X-3947-716-1	CABINET (REAR) ASSY (SC65/SC65: E)	
151	X-3946-335-1	CABINET (REAR) ASSY (SC55/SC55E: E, AUS, HK)		151	X-3947-717-1	CABINET (REAR) ASSY (SC65E: AEP, UK)	
163	3-969-462-01	KNOB, SS		163	3-969-462-21	KNOB, SS	
172	3-969-505-01	PIN, JC		172	3-969-505-21	PIN, JC	
173	3-969-497-01	COVER, JACK		173	3-969-497-21	COVER, JACK	

5-1-5. MAIN BOARDS ASSEMBLY
(See original service manual page 5-5)

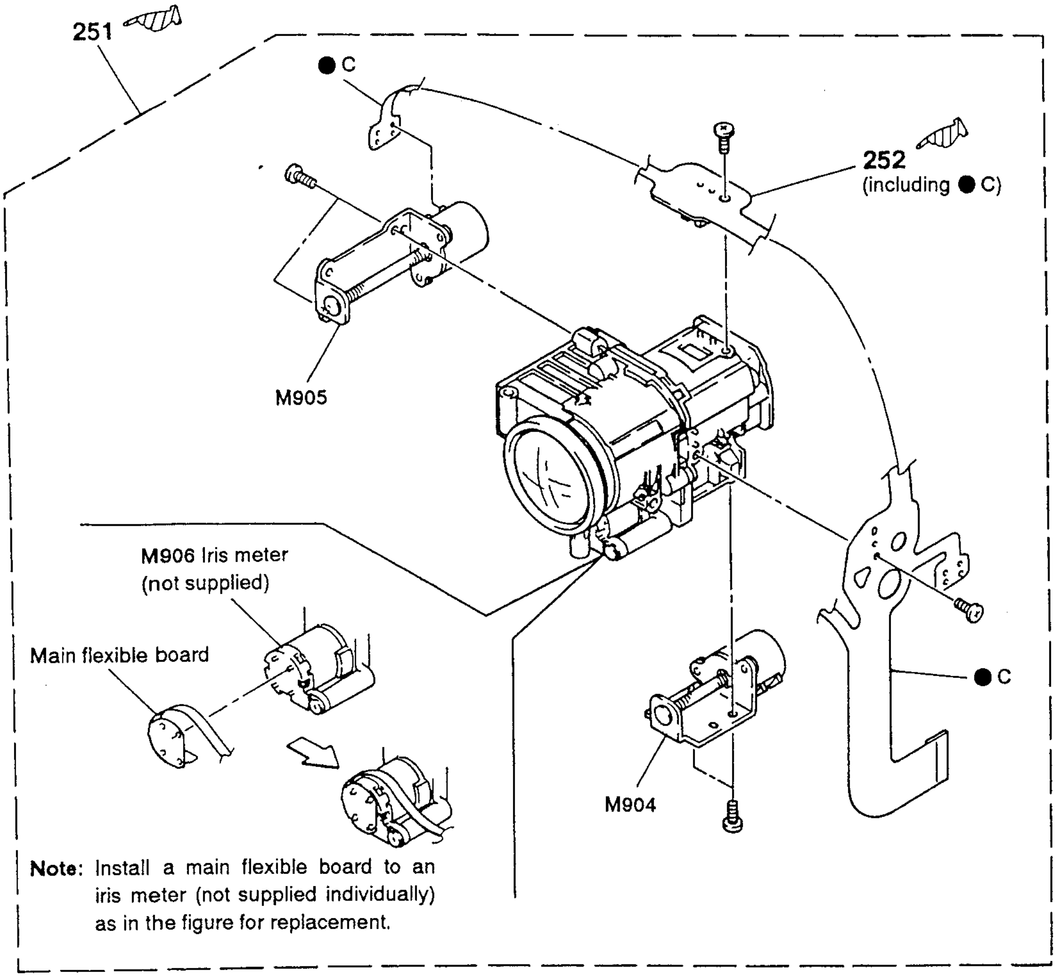
☞: Points changed parts.
☛: Points deleted parts.
☞: Points added parts.


203
220
203
SE791
SE792
207
Ⓐ
205
222
218
219
203
203
217
221
209
206
216
215
FP-346
(not supplied)
227
Ⓐ
218
not supplied
208
203
209
203
204
VD-27
IC351
not
supplied
(224)
214
213
212
CH-94
210
203
203
211
not supplied
VA-101
not supplied
226
not supplied
(223)
202
201
203

CCD-SC55/SC55E				CCD-SC65/SC65E			
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
* 201	A-7066-853-A	VA-96 BOARD, COMPLETE (SC55E)		* 201	A-7093-328-A	VA-101 BOARD, COMPLETE (SC65E)	
* 201	A-7092-900-A	VA-96 BOARD, COMPLETE (SC55)		* 201	A-7093-336-A	VA-101 BOARD, COMPLETE (SC65)	
* 204	A-7066-852-A	VD-25 BARD, COMPLETE (SC55E)		* 204	A-7093-327-A	VD-27 BOARD, COMPLETE (SC65E)	
* 204	A-7092-899-A	VD-25 BOARD, COMPLETE (SC55)		* 204	A-7093-335-A	VD-27 BOARD, COMPLETE (SC65)	
* 210	A-7066-854-A	CH-92 BOARD, COMPLETE (SC55E)		* 210	A-7093-329-A	CH-94 BOARD, COMPLETE (SC65E)	
* 210	A-7092-994-A	CH-92 BOARD, COMPLETE (SC55)		* 210	A-7093-338-A	CH-94 BOARD, COMPLETE (SC65)	
211	1-547-931-11	LENS, ZOOM (VCL-4210VA)		* 211	1-547-931-12	LENS ZOOM (VCL-4210VA)	
223	3-971-089-02	SHEET, KT SHIELD				not supplied	
224	3-971-090-01	CUSHION, VA				not supplied	
226	3-971-097-01	CUSHION, LENS					
				227	3-973-870-01	SHEET, FLEXIBLE COPPER LEAF	

5-1-6. ZOOM LENS ASSEMBLY (VCL-4210VA)
(See original service manual page 5-6)

☞: Points changed parts.

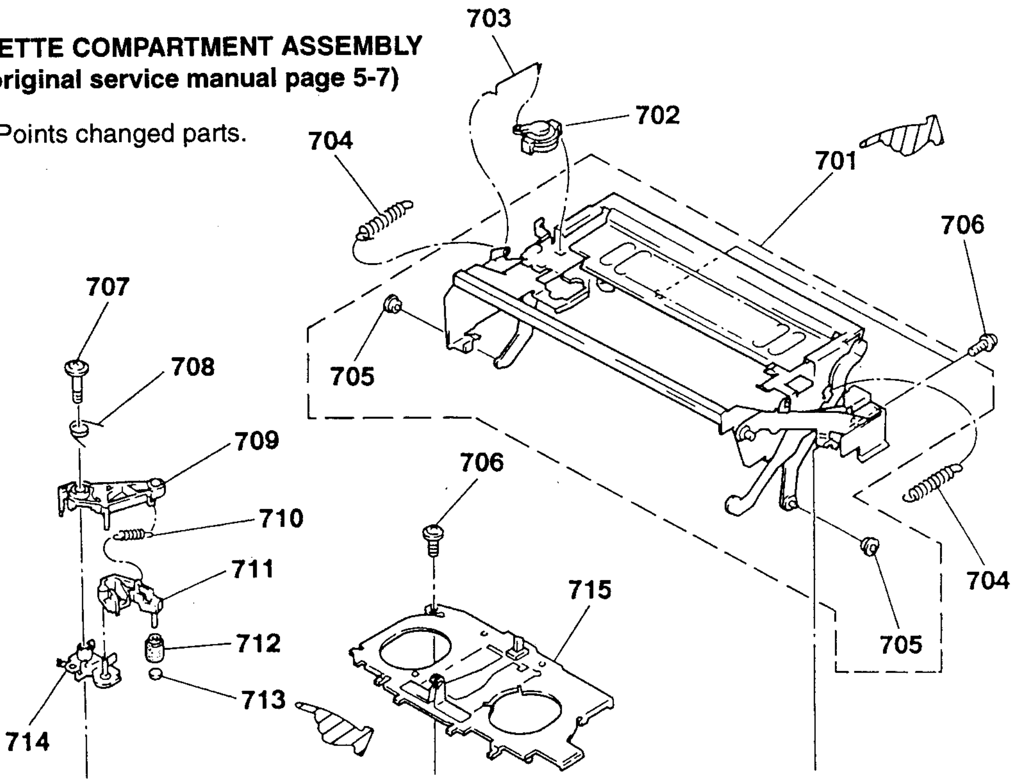

251 ☞
● C
252 ☞
(including ● C)
M905
M906 Iris meter
(not supplied)
Main flexible board
M904
● C

Note: Install a main flexible board to an iris meter (not supplied individually) as in the figure for replacement.

CCD-SC55/SC55E				CCD-SC65/SC65E			
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
251	1-547-931-11	LENS, ZOOM (VCL-4210VA)		251	1-547-931-12	LENS, ZOOM (VCL-4210VA)	
252	3-709-099-01	MAIN FLEXIBLE BOARD		252	3-709-099-02	MAIN FLEXIBLE BOARD	

5-1-7. CASSETTE COMPARTMENT ASSEMBLY (See original service manual page 5-7)

☞: Points changed parts.

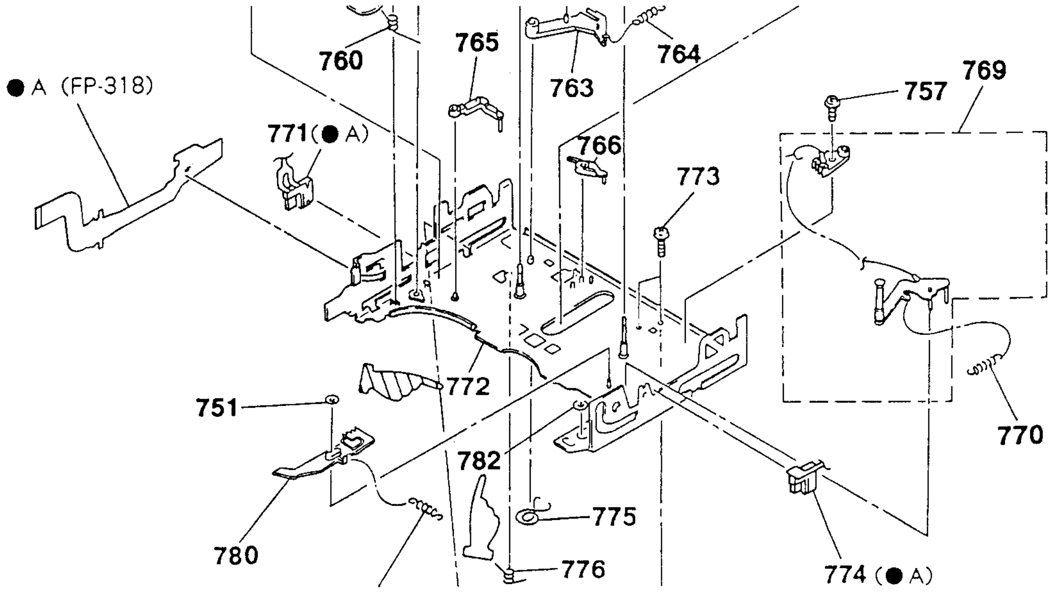

703
702
704
701
706
707
708
705
709
706
710
711
715
704
712
705
713
714

CCD-SC55/SC55E				CCD-SC65/SC65E			
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
701	X-3946-023-2	COMPARTMENT ASSY, CASSETE		701	X-3946-023-8	COMPARTMENT ASSY, CASSETTE	
713	3-315-414-31	WASHER		713	3-321-393-01	WASHER, STOPPER	

5-1-8. LS CHASSIS ASSEMBLY (See original service manual page 5-8)

☞: Points changed parts.

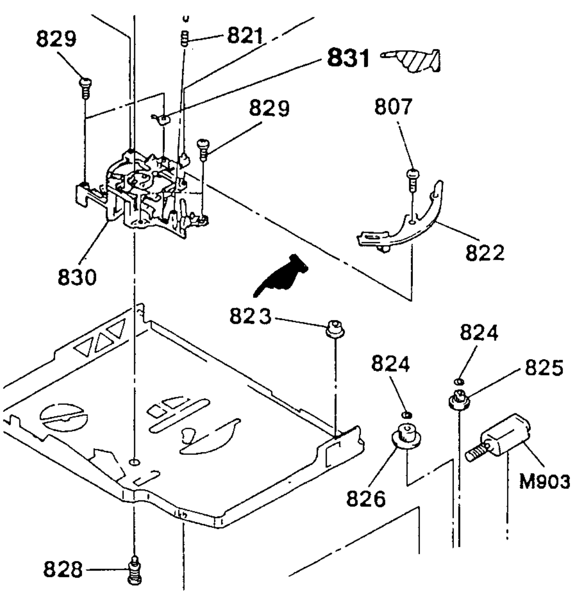
☞: Points added parts.


● A (FP-318)
760
765
763
764
769
757
771(● A)
766
773
772
751
770
782
775
780
776
774 (● A)

CCD-SC55/SC55E				CCD-SC65/SC65E			
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
772	X-3946-021-1	CHASSIS ASSY, LS		772	X-3946-931-1	CHASSIS ASSY, LS	
				782	3-969-309-01	WASHER	

5-1-9. MECHANISM CHASSIS ASSEMBLY (1)
(See original service manual page 5-9)

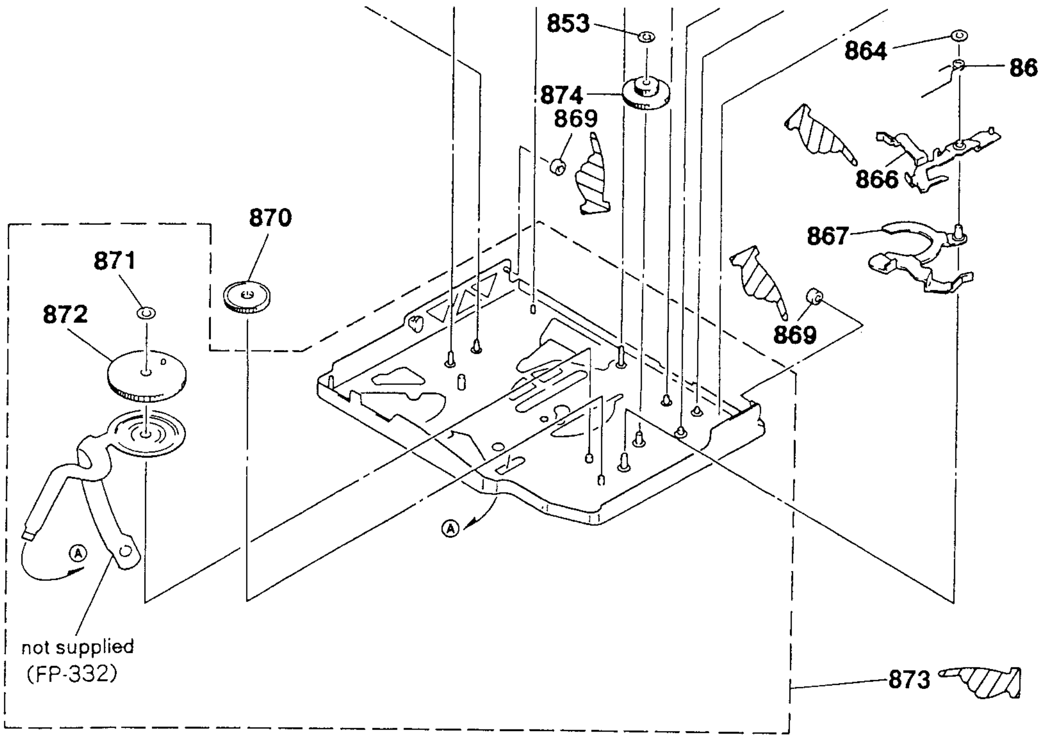
☞: Points changed parts.
☛: Points deleted parts.


829
821
831
829
807
822
830
823
824
824
825
826
M903
828

CCD-SC55/SC55E				CCD-SC65/SC65E			
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
823	3-954-739-01	ROLLER, LS GUIDE					
831	3-967-080-02	SPRING, GROUND		831	3-967-080-02	SPRING, GROUND (SC65)	

5-1-10. MECHANISM CHASSIS ASSEMBLY (2)
(See original service manual page 5-10)

☞: Points changed parts.


853
864
865
874
869
866
870
871
872
867
869
A
A
not supplied
(FP-332)
873

CCD-SC55/SC55E				CCD-SC65/SC65E			
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
866	3-964-954-01	ARM (VA), MODE		866	X-3947-295-1	ARM (VA) ASSY, MODE	
869	3-954-742-03	ROLLER, LS		869	3-954-742-05	ROLLER, LS	
873	A-7040-452-A	CHASSIS SUB BLOCK ASSY, MECHANISM		873	A-7040-452-K	SUB BLOCK ASSY	

5-2. ELECTRICAL PARTS LIST

- Differences of Boards

Page	CCD-SC55/SC55E			CCD-SC65/SC65E	
		Part No.	Description	Part No.	Description
	Change of board name				
5-11	*	A-7066-854-A	CH-92 BOARD, COMPLETE (SC55E)	A-7093-329-A	CH-94 BOARD, COMPLETE (SC65E)
	*	A-7092-994-A	CH-92 BOARD, COMPLETE (SC55)	A-7093-338-A	CH-94 BOARD, COMPLETE (SC65)
5-15	*	A-7072-803-A	MA-260 BOARD, COMPLETE (SC55E)	A-7073-228-A	MA-319 BOARD, COMPLETE (SC65E)
	*	A-7072-833-A	MA-260 BOARD, COMPLETE (SC55)	A-7073-298-A	MA-319 BOARD, COMPLETE (SC65)
5-19	*	A-7066-853-A	VA-96 BOARD, COMPLETE (SC55E)	A-7093-328-A	VA-101 BOARD, COMPLETE (SC65E)
	*	A-7092-900-A	VA-96 BOARD, COMPLETE (SC55)	A-7093-336-A	VA-101 BOARD, COMPLETE (SC65)
5-24	*	A-7066-852-A	VD-25 BOARD, COMPLETE (SC55E)	A-7093-327-A	VD-27 BOARD, COMPLETE (SC65E)
	*	A-7092-899-A	VD-25 BOARD, COMPLETE (SC55)	A-7093-335-A	VD-27 BOARD, COMPLETE (SC65)
	Change of board				
5-14	*	A-7072-583-A	FP-345 BOARD, COMPLETE	A-7073-262-A	FP-595 BOARD, COMPLETE
5-16	*	A-7066-855-A	PD-64 BOARD, COMPLETE (SC55E)	A-7093-330-A	PD-90 BOARD, COMPLETE (SC65E)
	*	A-7092-901-A	PD-64 BOARD, COMPLETE (SC55)	A-7093-337-A	PD-90 BOARD, COMPLETE (SC65)

- Electrical parts list for the renamed boards is not changed.
- Electrical parts on the changed FP-595 and PD-90 boards are listed on the next page.

- Differences of parts Other Than Boards

Page	CCD-SC55/SC55E				CCD-SC65/SC65E			
	Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
			MISCELLANEOUS ***************				MISCELLANEOUS ***************	
5-32	120	1-660-655-11	FP-343 FLEXIBLE BOARD		120	1-660-655-12	FP-343 FLEXIBLE BOARD	
	211	1-547-931-11	LENS, ZOOM (VCL-4210VA)		211	1-547-931-12	LENS, ZOOM (VCL-4210VA)	
	251	1-547-931-11	LENS, ZOOM (VCL-4210VA)		251	1-547-931-12	LENS, ZOOM (VCL-4210VA)	
	⚠BL001	1-517-525-21	TUBE, FLUORESCENT, COLD CATHODE		⚠BL001	1-517-696-11	TUBE, FLUORESCENT	
	LCD901	1-801-190-11	DISPLAY MODULE, LIQUID CRYSTAL		LCD901	1-801-190-11	MODULE, CRYSTAL INDICATION	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le neméro spécifié.

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service.
  Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA. . : μA. . uPA. . : μPA. .
  uPB. . : μPB. . uPC. . : μPC. .
  uPD. . : μPD. .
- CAPACITORS
  uF: μF
- COILS
  uH: μH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiquens pour la sécurité.
Ne les remplacer que par une pièce portant le neméro spécifié.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
	A-7073-262-A	FP-595 BOARD, COMPLETE **********************			
					(Ref.No. 7,000 Series)
		< IC >			
IC761	8-759-357-04	IC LT280A			
		< RESISTOR >			
R761	1-216-083-00	METAL CHIP	27K	5%	1/10W
R762	1-216-073-00	METAL CHIP	10K	5%	1/10W
R764	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R765	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R766	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
		< SWITCH >			
S761	1-762-333-21	SWITCH, TACTILE (DISPLAY)			
S762	1-762-333-21	SWITCH, TACTILE (EXECUTE)			
S763	1-762-333-21	SWITCH, TACTILE (COUNTER RESET)			
S764	1-762-333-21	SWITCH, TACTILE (↓)			
S765	1-762-333-21	SWITCH, TACTILE (↑)			
S766	1-762-333-21	SWITCH, TACTILE (MENU)			
S767	1-571-275-31	SWITCH, SLIDE (BACK LIGHT)			
	A-7093-337-A	PD-90 BOARD, COMPLETE (SC65)			
	A-7093-330-A	PD-90 BOARD, COMPLETE (SC65E) *********************			
					(Ref.No. 7,000 Series)
		< CAPACITOR >			
C802	1-164-868-11	CERAMIC CHIP	56PF	5%	16V
C803	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C804	1-164-850-11	CERAMIC CHIP	18PF	5%	16V
C806	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C807	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C808	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C809	1-164-471-11	CERAMIC CHIP	680PF	5%	50V
C811	1-104-912-11	TANTAL. CHIP	3.3uF	20%	6.3V
C812	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V
C813	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C814	1-107-685-11	TANTAL. CHIP	15uF	20%	6.3V
C815	1-104-752-11	TANTAL. CHIP	33uF	20%	6.3V
C816	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C817	1-164-471-11	CERAMIC CHIP	680PF	5%	50V (SC65E)
C818	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C819	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C820	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C821	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C823	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C824	1-164-858-11	CERAMIC CHIP	22PF	5%	16V
C825	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C827	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C828	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V (SC65E)
C829	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V (SC65E)
C830	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C831	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C832	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C833	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V (SC65E)
C834	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V (SC65E)
C835	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C837	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C838	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C839	1-164-864-11	CERAMIC CHIP	39PF	5%	16V (SC65E)
C841	1-164-848-11	CERAMIC CHIP	8PF	0.5PF	16V
C843	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C844	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C845	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C846	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C847	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C848	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C849	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C850	1-135-333-11	TANTAL. CHIP	1uF	20%	16V
C901	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C902	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C903	1-107-685-11	TANTAL. CHIP	15uF	20%	6.3V
C904	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C906	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C907	1-164-882-11	CERAMIC CHIP	220PF	5%	16V
C908	1-162-959-11	CERAMIC CHIP	330PF	5%	50V

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le neméro spécifié.

Ref. No.	Part No.	Description			Remark
C909	1-107-687-11	TANTAL. CHIP	3.3uF	20%	20V
C910	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C912	1-164-930-11	CERAMIC CHIP	330PF	5%	16V
C913	1-164-872-11	CERAMIC CHIP	82PF	5%	16V
C914	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C915	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C917	1-135-177-21	TANTALUM CHIP	1uF	20%	20V
C918	1-135-177-21	TANTALUM CHIP	1uF	20%	20V
C919	1-104-916-11	TANTAL. CHIP	6.8uF	20%	20V
C920	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C921	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C922	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C923	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C924	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C925	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C951	1-104-914-11	TANTAL. CHIP	22uF	20%	16V
C952	1-135-211-11	TANTAL. CHIP	6.8uF	20%	6.3V
C953	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C954	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C955	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C956	1-164-850-11	CERAMIC CHIP	18PF	5%	16V
C957	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C958	1-164-860-11	CERAMIC CHIP	27PF	5%	16V
C959	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C960	1-104-911-11	TANTAL. CHIP	33uF	20%	10V
C961	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C963	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C965	1-164-664-11	CERAMIC CHIP	0.033uF	10%	50V
⚠C967	1-113-520-11	CERAMIC CHIP	10PF	10%	3KV
		< CONNECTOR >			
CN801	1-774-929-21	CONNECTOR, FFC/FPC 39P			
CN802	1-573-364-11	CONNECTOR, FFC/FPC 24P			
CN951	1-764-709-11	CONNECTOR, FFC/FPC 10P			
CN991	1-774-633-11	CONNECTOR, FFC/FPC 8P			
		< DIODE >			
D801	8-713-102-80	DIODE	1T369-01-T8A (SC65E)		
D803	8-719-421-03	DIODE	MA732		
D901	8-713-102-80	DIODE	1T369-01-T8A		
D903	8-713-102-80	DIODE	1T369-01-T8A		
D905	8-719-420-90	DIODE	MA8051-M		
D951	8-719-404-49	DIODE	MA111		
D954	8-719-404-49	DIODE	MA111		
		< IC >			
IC801	8-759-079-52	IC	TC74VHC08FS(EL)		
IC801	8-759-396-26	IC	SN74LV08PW-E20		
IC804	8-759-364-05	IC	M62376GP-65AD		
IC804	8-759-427-85	IC	MB88146APFV-G-BND-ER		
IC805	8-759-450-52	IC	IR3Y29B4		
IC901	8-759-374-39	IC	LZ95N934		
IC902	8-759-359-49	IC	NJM3414AV(TE2)		
IC951	8-759-521-35	IC	TL5001CD-E2		
IC952	8-759-075-70	IC	TA75S393F-TE85R		
		< COIL >			
L801	1-412-963-11	INDUCTOR 100uH			
L802	1-412-962-11	INDUCTOR 82uH			

Ref. No.	Part No.	Description			Remark
L803	1-412-030-11	INDUCTOR CHIP 22uH			
L804	1-412-962-11	INDUCTOR 82uH (SC65)			
L804	1-412-960-21	INDUCTOR 56uH (SC65E)			
L805	1-412-956-21	INDUCTOR 27uH (SC65E)			
L806	1-414-771-91	INDUCTOR CHIP 10uH			
L901	1-414-771-91	INDUCTOR CHIP 10uH			
L902	1-414-771-91	INDUCTOR CHIP 10uH			
L903	1-414-771-91	INDUCTOR CHIP 10uH			
L904	1-412-953-11	INDUCTOR 15uH			
L951	1-412-028-11	INDUCTOR CHIP 4.7uH			
L952	1-406-824-11	COIL, CHOKE 22uH			
L953	1-406-924-11	COIL, CHOKE 150uH			
		< TRANSISTOR >			
Q802	8-729-037-52	TRANSISTOR	2SD2216J-QR(TX).SO		
Q803	8-729-037-74	TRANSISTOR	RN1104-TE85L1		
Q804	8-729-037-74	TRANSISTOR	RN1104-TE85L1		
Q805	8-729-037-74	TRANSISTOR	RN1104-TE85L1		
Q806	8-729-425-50	TRANSISTOR	2SB1462Q		
Q807	8-729-037-74	TRANSISTOR	RN1104-TE85L1		
Q808	8-729-037-74	TRANSISTOR	RN1104-TE85L1		
Q809	8-729-037-74	TRANSISTOR	RN1104-TE85L1		
Q810	8-729-037-52	TRANSISTOR	2SD2216J-QR(TX).SO (SC65E)		
Q812	8-729-425-50	TRANSISTOR	2SB1462Q		
Q815	8-729-037-74	TRANSISTOR	RN1104-TE85L1 (SC65E)		
Q816	8-729-037-74	TRANSISTOR	RN1104-TE85L1 (SC65E)		
Q818	8-729-037-52	TRANSISTOR	2SD2216J-QR(TX).SO		
Q901	8-729-037-74	TRANSISTOR	RN1104-TE85L1		
Q902	8-729-037-52	TRANSISTOR	2SD2216J-QR(TX).SO		
Q903	8-729-425-50	TRANSISTOR	2SB1462Q		
Q904	8-729-428-88	TRANSISTOR	UN9113		
Q951	8-729-037-75	TRANSISTOR	UN9214J-(TX).SO		
Q952	8-729-037-60	TRANSISTOR	UN9112J-(TX).SO		
Q953	8-729-037-74	TRANSISTOR	RN1104-TE85L1		
Q954	8-729-037-52	TRANSISTOR	2SD2216J-QR(TX).SO		
Q955	8-729-823-84	TRANSISTOR	FP102		
Q956	8-729-028-36	TRANSISTOR	FX507-TL1		
Q957	8-729-037-60	TRANSISTOR	UN9112J-(TX).SO		
Q958	8-729-037-74	TRANSISTOR	RN1104-TE85L1		
Q959	8-729-037-74	TRANSISTOR	RN1104-TE85L1		
Q960	8-729-037-74	TRANSISTOR	RN1104-TE85L1		
Q961	8-729-037-52	TRANSISTOR	2SD2216J-QR(TX).SO		
Q962	8-729-037-52	TRANSISTOR	2SD2216J-QR(TX).SO		
		< RESISTOR >			
R801	1-218-957-11	METAL GLAZE	2.2K	5%	1/16W
R803	1-218-949-11	METAL GLAZE	470	5%	1/16W
R804	1-218-953-11	METAL GLAZE	1K	5%	1/16W
R805	1-218-969-11	METAL GLAZE	22K	5%	1/16W
R806	1-218-949-11	METAL GLAZE	470	5%	1/16W
R807	1-218-970-11	METAL GLAZE	27K	5%	1/16W
R808	1-218-971-11	METAL GLAZE	33K	5%	1/16W
R809	1-218-965-11	METAL GLAZE	10K	5%	1/16W
R811	1-218-957-11	METAL GLAZE	2.2K	5%	1/16W
R812	1-218-859-11	METAL GLAZE	3.3K	0.50%	1/16W
R813	1-218-950-11	METAL GLAZE	560	5%	1/16W
R815	1-218-977-11	METAL GLAZE	100K	5%	1/16W
R816	1-218-983-11	METAL GLAZE	330K	5%	1/16W
R817	1-218-877-11	METAL GLAZE	18K	0.50%	1/16W

Ref. No.	Part No.	Description			Remark
R818	1-218-965-11	METAL GLAZE	10K	5%	1/16W
R819	1-218-973-11	METAL GLAZE	47K	5%	1/16W (SC65)
R819	1-218-965-11	METAL GLAZE	10K	5%	1/16W (SC65E)
R822	1-218-973-11	METAL GLAZE	47K	5%	1/16W
R823	1-218-971-11	METAL GLAZE	33K	5%	1/16W
R824	1-218-973-11	METAL GLAZE	47K	5%	1/16W
R826	1-219-570-11	METAL GLAZE	10M	5%	1/16W (SC65E)
R829	1-218-965-11	METAL GLAZE	10K	5%	1/16W
R834	1-218-966-11	METAL GLAZE	12K	5%	1/16W (SC65)
R834	1-218-975-11	METAL GLAZE	68K	5%	1/16W (SC65E)
R835	1-218-965-11	METAL GLAZE	10K	5%	1/16W
R836	1-218-971-11	METAL GLAZE	33K	5%	1/16W (SC65E)
R837	1-218-970-11	METAL GLAZE	27K	5%	1/16W (SC65)
R837	1-218-971-11	METAL GLAZE	33K	5%	1/16W (SC65E)
R839	1-218-974-11	METAL GLAZE	56K	5%	1/16W
R840	1-218-969-11	METAL GLAZE	22K	5%	1/16W
R841	1-218-968-11	METAL GLAZE	18K	5%	1/16W
R842	1-218-965-11	METAL GLAZE	10K	5%	1/16W
R843	1-218-969-11	METAL GLAZE	22K	5%	1/16W (SC65E)
R846	1-218-989-11	METAL GLAZE	1M	5%	1/16W
R848	1-218-973-11	METAL GLAZE	47K	5%	1/16W (SC65E)
R849	1-218-957-11	METAL GLAZE	2.2K	5%	1/16W (SC65)
R849	1-218-951-11	METAL GLAZE	680	5%	1/16W (SC65E)
R850	1-218-989-11	METAL GLAZE	1M	5%	1/16W
R851	1-218-971-11	METAL GLAZE	33K	5%	1/16W
R852	1-218-969-11	METAL GLAZE	22K	5%	1/16W
R853	1-218-961-11	METAL GLAZE	4.7K	5%	1/16W (SC65E)
R855	1-218-971-11	METAL GLAZE	33K	5%	1/16W
R856	1-218-968-11	METAL GLAZE	18K	5%	1/16W
R857	1-218-941-11	METAL GLAZE	100	5%	1/16W
R858	1-218-941-11	METAL GLAZE	100	5%	1/16W
R859	1-218-941-11	METAL GLAZE	100	5%	1/16W
R860	1-218-970-11	METAL GLAZE	27K	5%	1/16W
R861	1-218-975-11	METAL GLAZE	68K	5%	1/16W
R862	1-218-969-11	METAL GLAZE	22K	5%	1/16W
R863	1-218-964-11	METAL GLAZE	8.2K	5%	1/16W
R864	1-218-962-11	METAL GLAZE	5.6K	5%	1/16W
R871	1-218-865-11	METAL GLAZE	5.6K	0.50%	1/16W
R873	1-218-990-11	CONDUCTOR, CHIP		(1005)	
R874	1-218-990-11	CONDUCTOR, CHIP		(1005)	
R876	1-218-953-11	METAL GLAZE	1K	5%	1/16W
R877	1-218-953-11	METAL GLAZE	1K	5%	1/16W
R878	1-218-953-11	METAL GLAZE	1K	5%	1/16W
R879	1-218-953-11	METAL GLAZE	1K	5%	1/16W
R880	1-218-953-11	METAL GLAZE	1K	5%	1/16W
R881	1-218-953-11	METAL GLAZE	1K	5%	1/16W
R882	1-218-989-11	METAL GLAZE	1M	5%	1/16W

Ref. No.	Part No.	Description			Remark
R885	1-218-965-11	METAL GLAZE	10K	5%	1/16W (SC65E)
R887	1-218-962-11	METAL GLAZE	5.6K	5%	1/16W (SC65E)
R888	1-218-973-11	METAL GLAZE	47K	5%	1/16W
R889	1-218-971-11	METAL GLAZE	33K	5%	1/16W
R890	1-218-971-11	METAL GLAZE	33K	5%	1/16W
R891	1-218-969-11	METAL GLAZE	22K	5%	1/16W
R892	1-218-970-11	METAL GLAZE	27K	5%	1/16W
R894	1-218-961-11	METAL GLAZE	4.7K	5%	1/16W
R901	1-218-973-11	METAL GLAZE	47K	5%	1/16W
R902	1-218-989-11	METAL GLAZE	1M	5%	1/16W
R904	1-218-973-11	METAL GLAZE	47K	5%	1/16W
R905	1-218-977-11	METAL GLAZE	100K	5%	1/16W
R906	1-218-976-11	METAL GLAZE	82K	5%	1/16W
R907	1-218-976-11	METAL GLAZE	82K	5%	1/16W
R908	1-218-965-11	METAL GLAZE	10K	5%	1/16W
R909	1-218-965-11	METAL GLAZE	10K	5%	1/16W
R910	1-218-969-11	METAL GLAZE	22K	5%	1/16W
R911	1-218-961-11	METAL GLAZE	4.7K	5%	1/16W
R912	1-218-973-11	METAL GLAZE	47K	5%	1/16W
R913	1-218-989-11	METAL GLAZE	1M	5%	1/16W
R914	1-218-989-11	METAL GLAZE	1M	5%	1/16W
R915	1-218-965-11	METAL GLAZE	10K	5%	1/16W
R916	1-218-969-11	METAL GLAZE	22K	5%	1/16W
R917	1-218-975-11	METAL GLAZE	68K	5%	1/16W
R918	1-218-973-11	METAL GLAZE	47K	5%	1/16W
R919	1-218-975-11	METAL GLAZE	68K	5%	1/16W
R921	1-218-965-11	METAL GLAZE	10K	5%	1/16W
R922	1-218-961-11	METAL GLAZE	4.7K	5%	1/16W
R923	1-218-961-11	METAL GLAZE	4.7K	5%	1/16W
R924	1-218-973-11	METAL GLAZE	47K	5%	1/16W
R925	1-218-971-11	METAL GLAZE	33K	5%	1/16W
R926	1-218-977-11	METAL GLAZE	100K	5%	1/16W
R927	1-218-974-11	METAL GLAZE	56K	5%	1/16W
R928	1-218-982-11	METAL GLAZE	270K	5%	1/16W
R929	1-216-789-11	METAL CHIP	2.2	5%	1/16W
R930	1-218-879-11	METAL GLAZE	22K	0.50%	1/16W
R931	1-218-883-11	METAL GLAZE	33K	0.50%	1/16W
R932	1-218-879-11	METAL GLAZE	22K	0.50%	1/16W
R933	1-218-883-11	METAL GLAZE	33K	0.50%	1/16W
R936	1-218-973-11	METAL GLAZE	47K	5%	1/16W
R937	1-218-879-11	METAL GLAZE	22K	0.50%	1/16W
R938	1-218-875-11	METAL GLAZE	15K	0.50%	1/16W
R939	1-414-228-11	INDUCTOR, FERRITE		BEAD	
R940	1-216-836-11	METAL CHIP	18K	5%	1/16W
R947	1-218-990-11	CONDUCTOR, CHIP		(1005)	
R948	1-218-961-11	METAL GLAZE	4.7K	5%	1/16W
R951	1-218-867-11	METAL GLAZE	6.8K	0.50%	1/16W
R952	1-218-881-11	METAL GLAZE	27K	0.50%	1/16W
R953	1-218-950-11	METAL GLAZE	560	5%	1/16W
R954	1-218-969-11	METAL GLAZE	22K	5%	1/16W
R955	1-218-950-11	METAL GLAZE	560	5%	1/16W
R956	1-218-897-11	METAL GLAZE	120K	0.50%	1/16W
R957	1-218-961-11	METAL GLAZE	4.7K	5%	1/16W
R958	1-218-853-11	METAL GLAZE	1.8K	0.50%	1/16W
R959	1-218-867-11	METAL GLAZE	6.8K	0.50%	1/16W
R960	1-218-973-11	METAL GLAZE	47K	5%	1/16W
R961	1-218-859-11	METAL GLAZE	3.3K	0.50%	1/16W

Ref. No.	Part No.	Description	Remark
R962	1-218-961-11	METAL GLAZE 4.7K 5%	1/16W
R965	1-218-965-11	METAL GLAZE 10K 5%	1/16W
R966	1-216-059-00	METAL CHIP 2.7K 5%	1/10W
R967	1-218-977-11	METAL GLAZE 100K 5%	1/16W
R968	1-218-965-11	METAL GLAZE 10K 5%	1/16W
R969	1-216-059-00	METAL CHIP 2.7K 5%	1/10W
R970	1-218-969-11	METAL GLAZE 22K 5%	1/16W
R971	1-218-952-11	METAL GLAZE 820 5%	1/16W
R972	1-218-953-11	METAL GLAZE 1K 5%	1/16W
R973	1-218-955-11	METAL GLAZE 1.5K 5%	1/16W
R974	1-218-955-11	METAL GLAZE 1.5K 5%	1/16W
R975	1-216-810-11	METAL CHIP 120 5%	1/16W
R976	1-218-965-11	METAL GLAZE 10K 5%	1/16W
R977	1-218-990-11	CONDUCTOR, CHIP (1005)	
R990	1-218-974-11	METAL GLAZE 56K 5%	1/16W
R991	1-218-965-11	METAL GLAZE 10K 5%	1/16W
R993	1-218-956-11	METAL GLAZE 1.8K 5%	1/16W
R994	1-218-973-11	METAL GLAZE 47K 5%	1/16W
		< SWITCH >	
S991	1-572-688-11	SWITCH, PUSH (1 KEY)(LCD REVERSE)	
		< TRANSFORMER >	
⚠T951	1-429-507-31	TRANSFORMER, INVERTER	
		< VIBRATOR >	
X801	1-579-466-11	VIBRATOR, CRYSTAL (3.58MHz)(SC65)	
X801	1-579-661-21	OSCILLATOR, CRYSTAL (4.43MHz)(SC65E)	

Ref. No.	Part No.	Description	Remark
	ACCESSORIES & PACKING MATERIALS ******************************		
⚠	1-569-008-11	ADAPTOR, CONVERSION 2P (SC65E: E)	
	1-573-291-11	CONNECTOR, CONVERSION (SC65E: AEP, UK)	
⚠	1-751-676-11	CORD, POWER (SC65)	
	1-765-080-11	CORD, CONNECTION (AV CONNECTING CABLE, 1.5 m)	
⚠	1-769-608-11	CORD, POWER (SC65E)	
⚠	1-770-019-11	ADAPTOR, CONVERSION PLUG 3P (SC65E: UK)	
	1-776-841-21	CORD, CONNECTION (DK-626 CONNECTING CABLE, 2m)	
	3-860-211-11	MANUAL, INSTRUCTION (ENGLISH, RUSSIAN) (SC65E: AEP, UK)	
	3-860-211-21	MANUAL, INSTRUCTION (FRENCH, DATCH) (SD65E: AEP)	
	3-860-211-31	MANUAL, INSTRUCTION (GERMAN, ITALIAN) (SC65E: AEP)	
	3-860-211-41	MANUAL, INSTRUCTION (SPANISH, PORTUGUESE) (SC65E: AEP)	
	3-860-211-51	MANUAL, INSTRUCTION (ENGLISH, SPANISH) (SC65)	
	3-860-211-61	MANUAL, INSTRUCTION (FRENCH) (SC65)	
	3-860-211-71	MANUAL, INSTRUCTION (CHINESE) (SC65)	
	3-860-599-11	MANUAL, INSTRUCTION (ENGLISH, RUSSIAN) (SC65E: E)	
	3-860-599-21	MANUAL, INSTRUCTION (FRENCH, GERMAN) (SC65E: E)	
	3-860-599-31	MANUAL, INSTRUCTION (ARABIC, PERSIAN) (SC65E: E)	
	3-860-599-41	MANUAL, INSTRUCTION (CHINESE) (SC65E:E)	
	3-947-969-21	BELT (S), SHOULDER	
*	3-970-796-01	CUSHION (LOWER)	
*	3-970-797-31	INDIVIDUAL CARTON (SC65E:E)	
*	3-970-797-41	INDIVIDUAL CARTON (SC65E: AEP, UK)	
*	3-970-797-51	INDIVIDUAL CARTON (SC65)	
*	3-970-779-01	CUSHION, ACC	
	3-977-901-01	STRING, CAP	
	3-977-876-01	CAP, LENS	
	8-917-593-90	REMOCON, SONY RMT-717 SET	
⚠	A-7009-474-A	AC POWER ADAPTOR (AC-V615) (SC65)	
⚠	A-7009-475-D	AC POWER ADAPTOR (AC-V615) (SC65E)	
	A-7083-620-A	HOOD BLOCK ASSY	
	***NP-F530	BATTERY PACK	

Note.
***MARK PARTS IS AVAILABLE AS AN OPTIONAL ACCESSORY.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le neméro spécifié.

SECTION 6
ADJUSTMENTS

6-1. CAMERA SECTION ADJUSTMENTS

1-1. PREPARATIONS BEFORE ADJUSTMENT (CAMERA SECTION)

1-1-4. Page F Addrress (original service manual page 6-6)

Note: 1 The ← mark shown in the adjustment data memory column indicates that the address data is fixed and is the same as the initial value.

Note: 2 The initial adjustment date value is the value after "Page F, Page E Data Initialization" and "Page F Data Modification" have been executed. It is different from the value after all adjustments have been executed.

Note: 3 ( ) : CCD-SC65E (AEP, UK model)
[ ] : CCD-SC65E (E, model)

Address	Adjustment Data		
	Initial Value		Memo Column
	NTSC	PAL	
00			
01			
02			
04			
05			
06			
07			
08			
09			
0A			
0B			
0C			
0D			
0E			
0F			
10	00	00	
11	00	00	
12	00	00	
13	00	00	
14	00	00	
15	00	00	
16	00	00	
17	00	00	
18	00	00	
19	00	00	
1A	00	00	
1B	00	00	
1C	76	77	←
1D	00	00	←
1E	21	21	←

Table 6-1-1 (1).

Address	Adjustment Data		
	Initial Value		Memo Column
	NTSC	PAL	
1F	12	12	←
20	00	02	←
21	01	03	←
22	3B	3B	←
23	00	00	←
24	7C	7C	←
25	00	00	←
26	1F	1F	←
27	43	(41)[43]	←
28	44	44	←
29	00	00	←
2A	FE	FE	
2B	3B	3B	
2C	77	77	
2D	56	56	
2E	CD	CD	
2F	19	19	
30	92	92	
31	21	21	
32	12	12	
33	14	14	
34	00	00	
35	00	00	
36	00	00	
37	80	80	
38	80	80	
39	80	80	
3A	20	20	
3B	80	80	
3C	80	80	
3D	40	40	
3E	1B	1B	
3F	1B	1B	
40	AE	AE	
41	42	42	
42	44	44	
43	34	34	
44	2A	2A	
45	89	89	
46	59	59	
47	38	38	
48	41	41	
49	41	41	
4A	00	00	
4B	19	19	

Table 6-1-1 (2).

Address	Adjustment Data		
	Initial Value		Memo Column
	NTSC	PAL	
4C	00	00	
4D	2E	2E	
4E	00	00	
4F	00	00	
50	00	00	
51	00	00	
52	80	80	
53	80	80	
54	00	00	
55	00	00	
56	00	FD	
57	00	00	
58	00	22	
59	8B	5E	
5A	CA	7C	
5B	AA	7B	
5C	3C	3C	
5D	00	00	
5E	7A	7A	
5F	8D	8D	
60	7A	7A	
61	3A	3A	
62	C0	C0	
63	00	00	
64	A2	A2	
65	50	50	
66	8A	8A	
67	D8	D8	
68	46	60	
69	5A	40	
6A	35	20	
6B	00	F8	
6C	A6	AA	
6D	29	65	
6E	A2	A2	
6F	6A	70	
70	D5	D5	
71	D5	D5	
72	D5	D5	
73	D5	D5	
74	00	99	
75	00	8A	
76	BC	BC	
78	BC	BC	
79	BC	BC	

Table 6-1-1 (3).

Address	Adjustment Data		
	Initial Value		Memo Column
	NTSC	PAL	
77	BC	BC	
7A	00	00	
7B	00	00	
7C	00	00	
7D	00	00	
7E	80	80	
7F	80	80	
80	7C	7C	
81	80	80	
82	0C	0C	←
83	19	01	←
84	77	77	←
85	40	40	←
86	75	75	←
87	73	84	←
88	12	12	←
89	96	AA	←
8A	A5	A5	←
8B	68	68	←
8C	4A	4A	←
8D	F0	F0	←
8E	00	00	←
8F	01	01	←
90	68	28	←
91	80	60	←
92	10	40	←
93	31	29	←
94	68	28	←
95	70	70	←
96	40	40	←
97	2E	25	←
98	58	28	←
99	A0	80	←
9A	30	40	←
9B	14	1C	←
9C	58	28	←
9D	C0	FF	←
9E	30	40	←
9F	26	10	←
A0	78	28	←
A1	70	70	←
A2	4C	30	←
A3	06	0C	←
A4	58	28	←
A5	D0	E0	←

Table 6-1-1 (4).

Address	Adjustment Data		
	Initial Value		Memo Column
	NTSC	PAL	
A6	60	30	←
A7	0F	0C	←
A8	62	60	←
A9	91	91	←
AA	62	70	←
AB	A2	92	←
AC	60	70	←
AD	91	A2	←
AE	62	70	←
AF	A2	A3	←
B0	04	04	←
B1	E5	D5	←
B2	04	04	←
B3	F7	D6	←
B4	40	40	←
B5	00	00	←
B6	B3	B3	←
B7	B3	B3	←
B8	21	10	←
B9	05	01	←
BA	11	10	←
BB	03	03	←
BC	71	40	←
BD	15	32	←
BE	00	00	←
BF	00	00	←
C0	22	22	←
C1	80	80	←
C2	22	22	←
C3	20	20	←
C4	40	40	←
C5	00	00	←
C6	40	40	←
C7	00	00	←
C8	00	00	←
C9	27	27	←
CA	CA	CA	←
CBB	00	00	←
CC	50	50	←
CD	C4	C4	←
CE	1B	1B	←
CF	D8	D8	←
D0	A0	A0	←
D1	30	28	←
D2	10	0D	←

Table 6-1-1 (5).

Address	Adjustment Data		
	Initial Value		Memo Column
	NTSC	PAL	
D3	C0	C0	←
D4	6A	6A	←
D5	40	40	←
D6	60	40	←
D7	55	55	←
D8	66	66	←
D9	25	25	←
DA	34	34	←
DB	3F	3F	←
DC	95	95	←
DD	00	00	←
DE	00	00	←
DF	00	00	
E0	F7	F5	
E1	1A	1A	←
E2	33	33	←
E3	FE	FE	←
E4	3C	3C	←
E5	24	24	←
E6	83	83	←
E7	A0	A0	←
E8	67	67	←
E9	4D	4D	←
EA	33	33	←
EB	5C	5C	←
EC	5C	5C	←
ED	5C	5C	←
EE	3C	3C	←
EF	0F	0F	←
F0	10	10	←
F1	2C	2C	←
F2	0A	0A	←
F3	36	36	←
F4	72	72	←
F5	46	46	←
F6	E0	E0	←
F7	50	50	←
F8	3B	3B	←
B9	10	10	←
FA	E8	E8	←
FB	90	90	←
FC	00	00	←
FD	02	02	←
FE	F0	F0	←
FF	80	80	←

Table 6-1-1 (6).

1-1-5. Page E Addrress (original service manual page 6-9)

Note: 1 The ← mark shown in the adjustment data memory column indicates that the address data is fixed and is the same as the initial value.

Note: 2 The initial adjustment date value is the value after "Page F, Page E Data Initialization" and "Page E Data Modification" have been executed. It is different from the value after all adjustments have been executed.

Address	Adjustment Data		
	Initial Value		Memo Column
	NTSC	PAL	
00	52	52	←
01	89	89	←
02	15	15	←
03	4F	4F	←
04	5D	5D	←
05	66	66	←
06	93	93	←
07	AA	AA	←
08	64	64	←
09	44	44	←
0A	A2	A2	←
0B	92	92	←
0C	63	63	←
0D	68	68	←
0E	61	61	←
0F	33	33	←
10	05	05	←
11	F3	F3	←
12	9A	9A	←
13	88	88	←
14	EA	EA	←
15	28	28	←
16	2D	2D	←
17	EA	EA	←
18	00	00	←
19	0B	0B	←
1A	00	00	←
1B	0C	0C	←
1C	10	10	←
1D	0C	0C	←
1E	D8	D8	←
1F	00	00	←
20	A0	00	←
21	C6	00	←
22	00	00	←
23	00	00	←
24	00	00	←
25	00	00	←
26	01	01	←
27	40	40	←

Table 6-1-2 (1).

Address	Adjustment Data		
	Initial Value		Memo Column
	NTSC	PAL	
28	40	40	←
29	00	00	←
2A	00	00	←
2B	00	00	←
2C	10	10	←
2D	20	20	←
2E	25	25	←
2F	80	80	←
30	00	00	←
31	00	00	←
32	00	00	←
33	00	00	←
34	00	00	←
35	00	00	←
36	20	20	←
37	30	40	←
38	20	30	←
39	50	50	←
3A	2C	2A	←
3B	4C	4A	←
3C	24	20	←
3D	26	25	←
3E	0A	0A	←
3F	07	07	←
40	CC	20	←
41	00	00	←
42	40	40	←
43	1E	1E	←
44	00	00	←
45	F8	F8	←
46	30	22	←
47	10	10	←
48	04	08	←
49	04	04	←
4A	6C	6C	←
4B	00	00	←
4C	77	95	←
4D	41	41	←
4E	02	02	←
4F	1F	1F	←
50	FA	FA	←
51	F8	F8	←
52	9C	9C	←
53	8E	8E	←
54	74	74	←
55	5F	5F	←
56	4A	4A	←
57	3F	3F	←
58	2F	2F	←
59	10	10	←

Table 6-1-2 (2).

1-2. CAMERA SYSTEM ADJUSTMENT

1. Initialization of E, F Page Data (original service manual page 6-10)

Note: If the E, and F page data has been initialized, the "Camera System Adjustments", "Servo System Adjustments", "Video System Adjustments", and "Audio System Adjustments" need to be performed again.

Initializing method:

Adjust Page	E
Adjusting address	00 to59
Adjustment Page	F
Adjustment Address	10 to FF

1) Set data: 01 to page: 0, address: 01.
2) Set data: 2D to page: 2, address: 00.
3) Set data: 2D to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
4) Check that the data of page: 2, address: 02 is 01.
5) Set data: 00 to page: 0, address: 01.

2. Modification of F Page Data (original service manual page 6-10)

If the E and F page data has been initialized, change the data as shown in the table on the raigt by manual input.

Note: 1 Before changing the data, set data: 01 to page: 0, address: 01.

Note: 2 To write in the non-volatile memory (EEPROM) after canging the data, press the PAUSE button of the adjusting remote commander each time to set the new data.

Note: 3 After changing the data, set data: 00 to page: 0, address: 01. Also perform "Camera System Adjustments", "Servo System Adjustments", "Video System Adjustments", and "Audio System Adustments".

Address	NTSC	PAL
1C	76	77
20	00	
21		03
27	43	(41)[43]
28	44	44
56		FD
58		22
59	8B	5E
5A	CA	7C
5B	AA	7B
61	3A	3A
68	46	60
69	5A	40
6A	35	20
6B	00	F8
6C	A6	AA
6D	29	65
6F	6A	70
83	19	
85	40	40
87		84
89		A9
8F	01	01
90	68	28
91	80	60
92	10	40
93	31	39
94	68	2A
95	70	60
96	40	40

Address	NTSC	PAL
97	2E	39
98	58	28
99	A0	80
9A	30	40
9B	14	30
9C	58	28
9D	C0	FF
9E	30	40
9F	26	01
A0	78	28
A1	70	BB
A2	4C	30
A3	06	00
A4	58	28
A5	D0	FF
A6	60	30
A7	0F	00
A8	62	60
A9	91	91
AA	62	60
AB	A2	92
AD	91	A2
AE	62	60
AF	A2	A3
B1	E5	D5
B3	F7	D6
B4	40	40
B8	21	10
B9	05	01
BA	11	10
BB	03	03
BC	71	40
BD	15	32
CA		D2
D1	30	28
D2	10	0D
D6		40
DF	00	00
E0	F7	F5
E1	1A	1A
E2	33	33
E9	4D	4D
F9	10	10
FF	80	80

Note: ( ) : CCD-SC65E (AEP, UK model)
[ ] : CCD-SC65E (E, model)

3. Modification of E Page Data (original service manual page 6-12)

If the E and F page data has been initialized, change the data as shown in the following table by manual input.

Note: 1 Before changing the data, set data: 01 to page: 0, address: 01.

Note: 2 To write in the non-volatile memory (EEPROM) after canging the data, press the PAUSE button of the adjusting remote commander each time to set the new data.

Note: 3 After changing the data, set data: 00 to page: 0, address: 01. Also perform "Camera System Adjustments", "Servo System Adjustments", "Video System Adjustments", and "Audio System Adustments".

Address	NTSC	PAL
03	4F	4F
04	5D	5D
05	66	66
12	9A	9A
13	88	88
14	EA	EA
15	28	28
20	A0	
21	C6	
36	20	20
37	30	30
38	20	20
39	50	40
3A	2C	2A
3B	4C	3A
3C	24	20
3D	26	24
40	CC	28
46	30	22
48	04	08
4B	00	00
4C	77	95
4E	02	02
50	FA	FA

1-3. LCD SYSTEM ADJUSTMENTS (original service manual page 6-20)

Note: 1 The back light (fluorescent tube) is driven by a high voltage AC power supply. Therefore, do not touch the back light holder to avoid electrical shock.

Note: 2 When replacing the LCD unit, be very careful to prevent damages caused by static electricity.

Note: 3 Set "LCD BRIGHT" to the center using the "LCD BRIGHT" adjusting button (S710, 713, of the KY-33 board).

Note: 4 Set the setting in the menu display to the following positions.
LCD-COLOR..Center
LCD HUE (NTSC model) ....Center

[Adjusting connector]

Most of the measuring points for adjusting the LCD display are concentrated in CN61 of the VA-101board.
Connect the measuring instruments via the multi CPC tool (J-6082-311-A).
The following table shows the Pin No. and signal name of CN61.

PIN NO.	Signal Name	PIN NO.	Signal Name
1	COM-O	6	SYNC
2	VG	7	HSY
3	VB	8	SPD
4	COM-O	9	N.C.
5	GND		

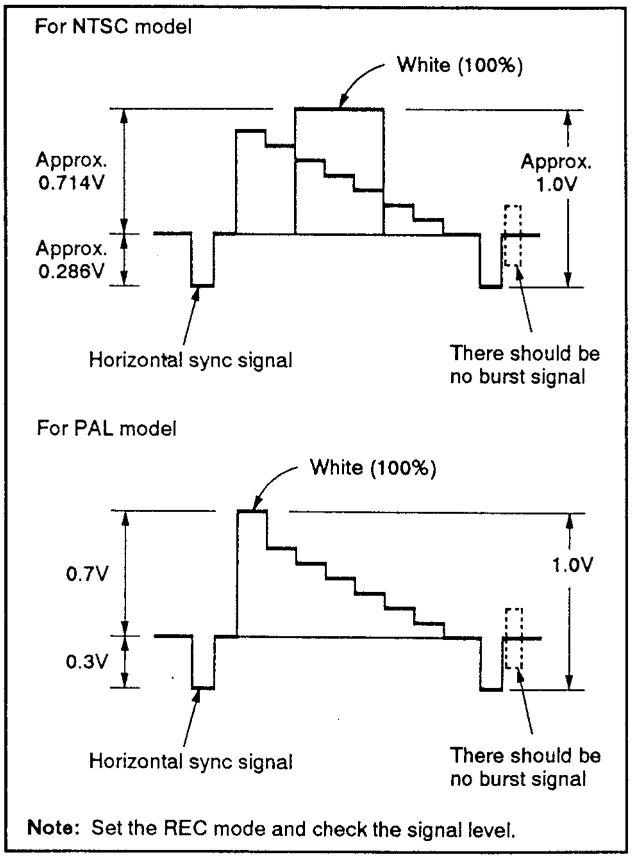
Table 6-1-3.

[Power Supply Voltage]

Adjust the power so that voltage of pins ㉜, ㉝ and ㉞ of CN801 on the PD-90 BOARD becomes 7.2 ± 0.1 Vdc.

[Video input signal for adjustment]

If stated as "color bar signal whose chroma signal and burst signal have been turned off" in the signal column, input the color bar signal whose chroma signal and burst signal have been turned off in the video input terminal as the video input signal for adjusting. Check that the input signal level is 1.00 Vp-p before adjusting.


For NTSC model
White (100%)
Approx. 0.714V
Approx. 1.0V
Approx. 0.286V
Horizontal sync signal
There should be no burst signal
For PAL model
White (100%)
0.7V
1.0V
0.3V
Horizontal sync signal
There should be no burst signal

Note: Set the REC mode and check the signal level.

Fig. 6-1-2. Color Bar Signal with Chroma Signal and Burst Signal have been turned Off

1. LCD Initial Data Input

Mode	VTR stop
Signal	Random
Adjustment Page	D
Adjustment Address	3F, 52 to 63

Adjusting method:

1) Set data: 01 to page 0, address: 01.
2) Select page: D, and input the data in the following table.
   Note: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjusting remote commander each time to set the data.
3) Set data: 01 to page: 0, address: 01.

Address	Data		REMARKS
	NTSC	PAL	
3F	02	02	Fixed value
52	8A	8A	
53	52	73	
54	56	68	
55	72	73	
56	65	5F	
57	97	96	
58	97	97	
59	3B	35	
5A	62	62	
5B	76	7E	
5C	80	80	
5D	8A	8A	
5E	00	68	(Fixed value: NTSC model)
5F	80	80	
60	00	F0	Fixed value
61	00	60	Fixed value
62	58	58	Fixed value
63	93	93	Fixed value

2. VCO Adjustment (PD-90 board)

Set the VCO freerun frequency.
If deviated, the LCD screen will be blur.

Mode	VTR stop
Signal	No signal
Measurement point	VA-101 board Pin ⑧ of CN61 (SPD)
Measuring Instrument	Frequency counter
Adjustment Page	D
Adjustment Address	58
Specified Value	f = 15734 ± 30 Hz (NTSC) f = 15625 ± 30 Hz (PAL)

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Set data: 03 to page: 0, address: FF.
3) Set data: 05 to page: 2, address: 01.
4) Set data: 06 to page: 3, address: 2B.
5) Set data: 06 to page: 3, address: 2C.
6) Set data: 00 to page: 0, address: FF.
7) Change the data of page: D, address 58, and the HSY signal frequency (f) to the specified value.
8) Press the PAUSE button of the adjusting remote commander.
9) Set data: 03 to page: 0, address: FF.
10) Set data: 05 to page: 2, address: 01.
11) Set data: 00 to page: 3, address: 2B.
12) Set data: 00 to page: 3, address: 2C.
13) Set data: 00 to page: 0, address: FF.
14) Set data: 00 to page: 0, address: 01.

3. Horizontal Display Position Adjustment (PD-90 board)

Adjust the LCD horizontal position.
If deviated, the screen will deviate to the left or right.

Mode	VTR stop
Signal	Color bar
Measurement point	CH1: VA-101 board Pin ⑥ of CN61 (SYNC) CH2: VA-101 boardPin ⑧ of CN61 (SPD)
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	5C, 5F
Specified Value	T = 1.1 ± 0.1 μsec. (NTSC) T = 0.5 ± 0.1 μsec. (PAL)

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Change the data of page: D, address: 5C, and set the time difference between the SYNC waveform and HSY waveform to the specified value.
3) Press the PAUSE button of the adjusting remote commander.
4) Set the same data as page: D, address: 5C to page: D, address: 5F, and press the PAUSE button of the adjusting remote commander.
5) Set data: 00 to page: 0, address: 01.

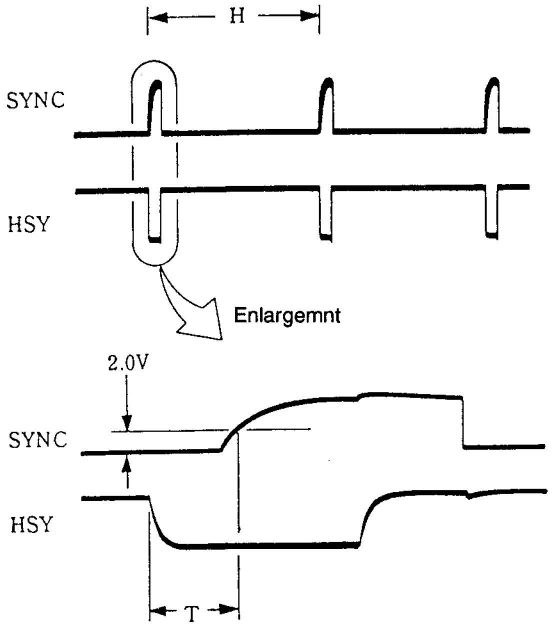


Fig. 6-1-13.

• CCD-SC65/SC65E ONLY

4. D-Range Adjustment (PD-90 board)

Set the D-range of RGB decorder properly that drives LCD.
If the D-range is offset, white or black image on LCD will blur.

Mode	VTR stop
Signal	Color bar signal with chroma signal and burst signal have been turned off
Measurement point	VA-101 board Pin ② of CN61 (VG)
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	5A
Specified Value	A = 3.65 ± 0.05 V (NTSC) A = 3.67 ± 0.05 V (PAL)

Switch setting:

1) Turn off the screen display with the display button (S761 on FP-595 board)

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Change the data of page: D, address: 5A, and set the voltage (A) between inverting pedestal and non-inverting pedestal satisfies the specification.
3) Press the PAUSE button of the adjusting remote commander.
4) Set data: 00 to page: 0, address: 01.

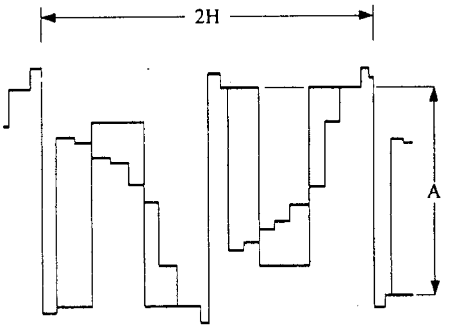


Fig. 6-1-14.

5. Bright Adjustment (PD-90 board)

Set the VIDEO signal level properly that drives LCD.
In case of offset level, an image on LCD will not be clear, or white/black will blur.

Mode	VTR stop
Signal	10-step stair signal
Measurement point	VA-101 board Pin ② of (VG)
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	52, 5D
Specified Value	A = 0.37 ± 0.05 V (NTSC) A = 0.44 ± 0.05 V (PAL)

Note: Same as: "6. Contrast Adjustment" and tracking adjustment.

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Change the data of page: D, address: 5A, and set the voltage (A) between the pedestal (0IRE) and 10IRE satisfies to the specified value.
3) Press the PAUSE button of the adjusting remote commander.
4) Set the same data as page: D, address: 52 to page: D, address: 5D, and press the PAUSE button of the adjusting remote commander.
5) Set data: 00 to page: 0, address: 01.
6) Check that the specified value of "Contrast Adjustment" is satisfied. If not, perform the "Contrast Adjustment".

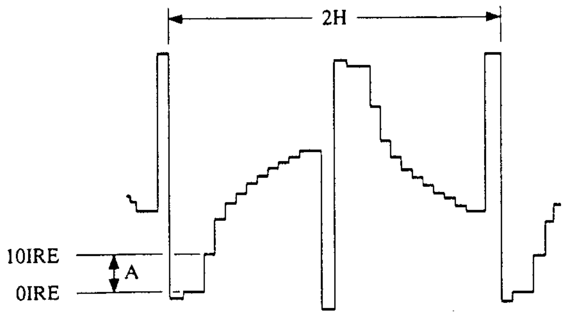


Fig. 6-1-15.

6. Contrast Adjustment (PD-90 board)

Set the VIDEO signal level properly that drives LCD.
In case of offset level, an image on LCD will not be clear, or white/black will blur.

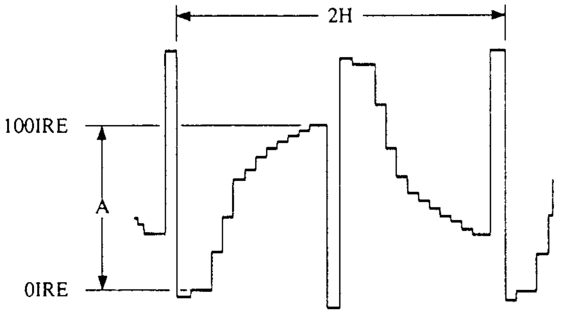
Mode	VTR stop
Signal	10-step stair signal or color bar signal with chroma signal and burst signal have been turnd off
Mesurement point	VA-96 board Pin ② of CN61(VG)
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	57
Specified Value	A = 3.33 ± 0.05 (NTSC) A = 3.30 ± 0.05 V (PAL)

Note: Same as: "5. Bright Adjustment" and tracking adjustment.

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Change the data of page: D, address: 57, and set the voltage (A) between the pedestal (0IRE) and white 100% (100IRE) to the specified value (A).
3) Press the PAUSE button of the adjusting remote commander.
4) Set data: 00 to page: 0, address: 01.
5) Check that the specified value of "Bright Adjustment" is satisfied. If not, perform the adjustment.
   10-step stir signal

10-step stair signal



Color bar signal with chroma signal and burst signal have been turned off

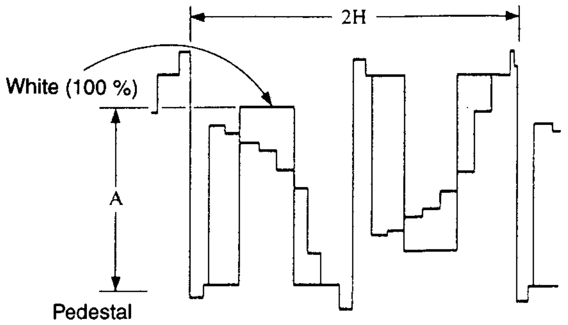


Fig. 6-1-16.

• CCD-SC65/SC65E ONLY

7. V-COM Level Adjustment (PD-90 board)

Set the common electrode drive signal level of the LCD panel properly.

Mode	VTR stop
Signal	Color bar signal with chroma signal and burst signal have been turned off
Measurement point	VA-96 board Pin ④ of CN61 (COM-O)
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	5B
Specified Value	A = 2.15 ± 0.05 V

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Change the data of page: D, address: 5B, and set the COM-O signal level (A) to the specified value.
3) Press the PAUSE button of the adjusting remote commander.
4) Set data: 00 to page: 0, address: 01.

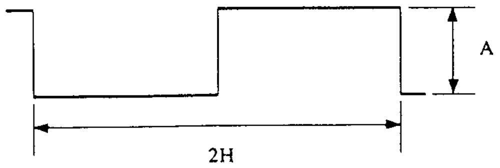


Fig. 6-1-17.

8. Color Adjustment for NTSC model (PD-90 board)

Set the color thickness to the standard value.
If deviated, the color will be too dark light.

Mode	VTR stop
Signal	Color bar signal Signal (With chroma signal and burst signal)
Measurement point	VA-101 board Pin ② of CN61(VG)
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	53
Specified Value	A = 0.71 ± 0.05 V

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Change the data of page: D, address: 53, and set the green level (A) to white (75%).
3) Press the PAUSE button of the adjusting remote commander.
4) Set data: 00 to page: 0, address: 01.

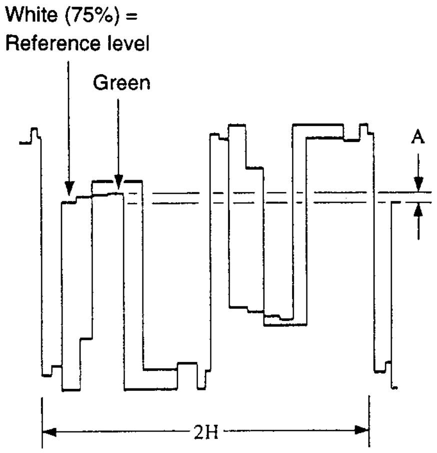


Fig. 6-1-18.

9. Hug Adjustment for NTSC model (PD-90 board)

Set the color thickness to the standard value.
If deviated, the color will be unnatural.

Mode	VTR stop
Signal	Color bar signal (With chroma signal and burst signal)
Measurement Point	VA-101 board Pin ② of CN61(VG)
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	54
Specified Value	A = 0.67 ± 0.05 V

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Change the data of page: D, address: 54, and set the cyan level (A) to the specified value in respect to yellow.
3) Press the PAUSE button of the adjusting remote commander.
4) Set data: 00 to page: 0, address: 01.

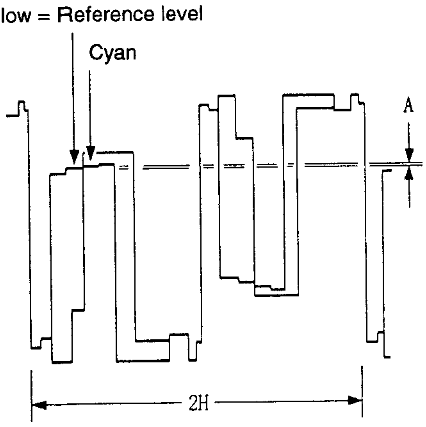


Fig. 6-1-19.

10. Burst Cleaning Adjusutment for PAL model (PD-90 board)

Adjust to the optimum PAL chroma signal demodulation phase.
If the phase is not correct, moire distortion and noises will stand out.

Mode	VTR stop
Signal	No signal(LCD screen display blue back)
Measurement point	Pin ② of CN61(VG) on VA-101 board
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	54, 5E
Specified Value	Minimam amplitude of the flicker of the red section (Less than 50 mV)

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Change the data of page: D, address: 54, and adjusut so that the amplitude of the flicker of point A becames minimum.
3) Press the PAUSE button of the adjusting remote commander.
4) Set the same data as address: 54 of page: D to address: 5E of page: D.
5) Press the PAUSE button of the adjusting remote commander.
6) Set data: 00 to page: 0, address: 01.

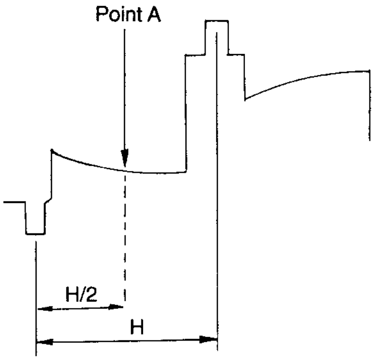


Fig. 6-1-20.

11. Color Cleaning Adjustment for PAL model (PD-90 board)

Set the Standard color level.
If the level is not correct, the image will be abnormal.

Mode	VTR stop
Signal	Color bar signal
Measurement point	Pin ② of CN61(VG) on VA-101 board
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	53
Specified Value	A= +0.38 ±0.05V

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Change the data of page: D, address: 53, and adjust so that the level difference (A) of yellow and green section to the specified value.
3) Press the PAUSE button of the adjusting remote commander.
4) Set data: 00 to page: 0, address: 01.

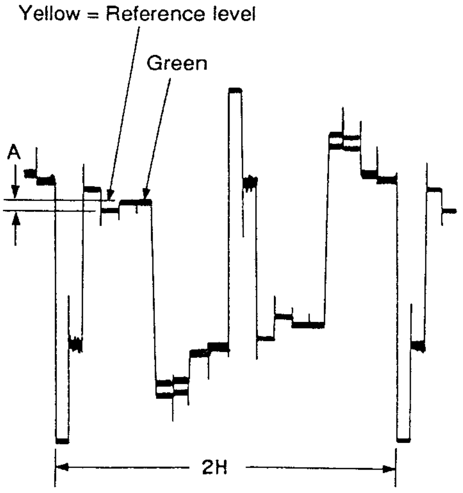


Fig. 6-1-21.

12. V COM Adjustment (PD-90 board)

Set the DC bias of the common electrode drive signal of the LCD panel to the specified value.
If deviated, the LCD display will move, producing flicker and conspicuous verical lines.

Mode	Playback pause
Signal	Alignment tape: SP mode operation check (WR-5NSP (NTSC) WR-5CSP (PAL)) Color bar portion
Measurement point	Check on LCD display
Measuring Instrument	Check on LCD display
Adjustment Page	D
Adjustment Address	59

Note: < > : NTSC model
[ ] : PAL model

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Set data: 50 to page D, address: 13, set and press the PAUSE button of the adjusting remote commander.
3) Set the playback pause state at the color bar portion of the alignment tape.
4) Set the data of page: D, address 59 to the initial value < 3B > or [35].
5) Cange the data of page: D,address: 59 and observe the pattern of the noise bar of the LCD display. When the data is increased from the initial value, black dots will be seen around the part with the head clog pattern. Take the data at this time as D_A. When decreased from the initial value, the same black dots will be seen. Take this data as D_B.
6) Convert D_A and D_B to decimal numbers to obtain D_A' and D_B'. (Refer to Table 6-4-2. Hexadecimal-Decimal Conversion of "Data processing" of "Service mode".)
7) Calculate D_C' using the following equation (decimal calculation)
$D_C' = (D_A' + D_B') \div 2$
8) Convert D_C' to a hexadecimal number to obtain D_C. Press the PAUSE button of the remote commander.
9) Set data: D_C to page: D, address: 59, and press the PAUSE button of the remote commander.
10) Set data: 70 to page: D, address: 13, and press the PAUSE button of the remote commander.
11) Set data: 00 to page: 0, address: 01.

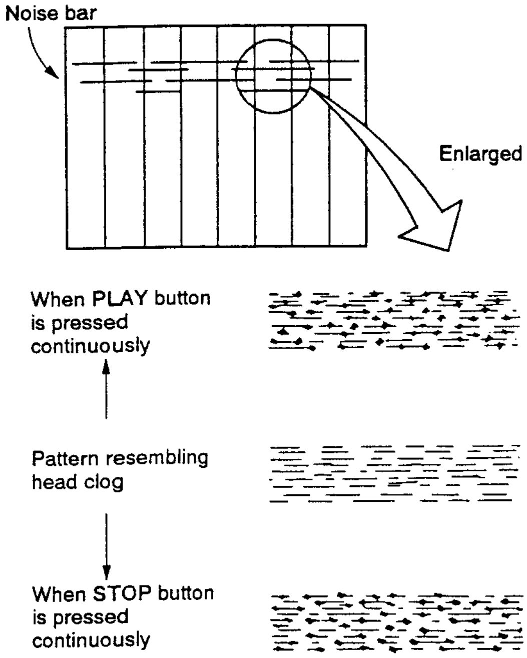

Noise bar
Enlarged
When PLAY button is pressed continuously
Pattern resembling head clog
When STOP button is pressed continuously

Fig. 6-1-22.

13. White Balance Adjustment (PD-90 board)

Adjust the white balance.
If deviated, the LCD screen color cannot be reproduced.

Mode	VTR stop
Signal	Color bar signal whose chroma signal and burst signal have been turnd off.
Measurement point	Check on LCD display
Measuring Instrument	
Adjustment Page	D
Adjustment Address	55, 56
Specified Value	The LCD display is B/W.

Note: Check the white balance only when replacing the following parts. If neccessary, adjust them.
1. LCD panel
2. Light induction plate
3. IC805

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Set the data of page: D, address: 55 and 56 to the initial value.

Address	Data	
	NTSC	PAL
55	72	73
56	65	5F

Note: To write in the non-volatile memory (EEPROM), Press the PAUSE button of the adjusting remote commander each time to set the data.

3) Check that the LCD display is black and white. If colored, change the data of page: D, address: 55 and 56 so that the LCD display becomes black and white.

Note: To write in the non-volatile memory (EEPROM), Press the PAUSE button of the adjusting remote commander each time to set the data.

4) Set data: 00 to page: 0, address: 01.

6-3. VIDEO SECTION ADJUSTMENTS

3-1. PREPARATIONS BEFORE ADJUSTMENT

3-1-10. Page D Addrress (original service manual page 6-42)

Note: 1 The ← mark shown in the adjustment data memory column indicates that the address data is fixed and is the same as the initial value.

Note: 2 The initial adjustment date value is the value after "Page D Data Initialization" and "Page D Data Modification" have been executed. It is different from the value after all adjustments have been executed.

Note: 3 ( ) : CCD-SC65E (AEP, UK model)
[ ] : CCD-SC65E (E, model)

Address	Adjustment Data		
	Initial Value		Memo Column
	NTSC	PAL	
00 to 0F			
10	00	00	←
11	02	(06)[07]	←
12	6E	(FC)[FE]	←
13	70	70	←
14	07	07	←
15	F1	F1	←
16	01	01	←
17	0F	0F	←
18	01	01	←
19	36	36	←
1A	17	17	←
1B	2D	2D	←
1C	0B	0B	←
1D	00	00	←
1E	00	00	←
1F	18	18	←
20	00	00	
21	C0	(40)[C0]	
22	00	00	
23	65	65	
24	15	15	
25	68	56	
26	05	05	
27	E7	E7	
28	80	80	
29	85	85	
2A	91	91	
2B	A0	A0	
2C	0C	0C	
2D	0C	0C	
2E	00	00	
2F	05	05	
30	05	05	
31	69	69	
32	24	24	

Table 6-3-3 (1).

Address	Adjustment Data		
	Initial Value		Memo Column
	NTSC	PAL	
33	C0	C0	
34	07	07	
35	80	80	
36	FF	00	
37	02	02	
38	02	02	
39	04	04	
3A	0A	0A	
3B	32	32	
3C	08	08	
3D	80	80	
3E	00	00	
3F	02	02	←
40	3F	3F	
41	00	00	
42	20	20	
43	20	20	
44	00	00	
45	00	00	
46	08	08	
47	80	80	
48	A0	A0	
49	E8	E8	
4A	A0	A0	
4B	90	90	
4C	D8	D8	
4D	78	78	
4E	60	60	
4F	90	90	
50	35	35	
51	80	80	
52	8A	8A	
53	52	73	
54	56	68	
55	72	73	
59	65	5F	
57	97	96	
58	97	97	
59	3B	35	
5A	62	62	
5B	76	7E	
5C	80	80	
5D	8A	8A	
5E	00	68	←: NTSC
5F	80	80	
60	00	F0	←
61	00	60	←
62	58	58	←
63	93	93	←

Table 6-3-3 (2).

3-1-11. Page F Addrress (original service manual page 6-44)

Note: 1 The ← mark shown in the adjustment data memory column indicates that the address data is fixed and is the same as the initial value.

Note: 2 The initial adjustment date value is the value after "Page F, Page E Data Initialization" and "Page F Data Modification" have been executed. It is different from the value after all adjustments have been executed.

Note: 3 ( ) : CCD-SC65E (AEP, UK model)
[ ] : CCD-SC65E (E, model)

Address	Adjustment Data		
	Initial Value		Memo Column
	NTSC	PAL	
00	00	00	
01	00	00	
02	00	00	
03	00	00	
04	00	00	
05	00	00	
06	00	00	
07	00	00	
08	00	00	
09	00	00	
0A	00	00	
0B	00	00	
0C	00	00	
0D	00	00	
0E	00	00	
0F	00	00	
10	00	00	
11	00	00	
12	00	00	
13	00	00	
14	00	00	
15	00	00	
16	00	00	
17	00	00	
18	00	00	
19	00	00	
1A	00	00	
1B	00	00	
1C	76	77	←
1D	00	00	←
1E	21	21	←
1F	12	12	←
20	00	02	←
21	01	03	←
22	3B	3B	←
23	00	00	←

Table 6-3-4 (1).

Address	Adjustment Data		
	Initial Value		Memo Column
	NTSC	PAL	
24	7C	7C	←
25	00	00	←
26	1F	1F	←
27	43	(41)[43]	←
28	44	44	←
29	00	00	←
2A	FE	FE	
2B	3B	3B	
2C	77	77	
2D	56	56	
2E	CD	CD	
2F	19	19	
30	92	92	
31	21	21	
32	12	12	
33	14	14	
34	00	00	
35	00	00	
36	00	00	
37	80	80	
38	80	80	
39	80	80	
3A	20	20	
3B	80	80	
3C	80	80	
3D	40	40	
3E	1B	1B	
3F	1B	1B	
40	AE	AE	
41	42	42	
42	44	44	
43	34	34	
44	2A	2A	
45	89	89	
46	59	59	
47	38	38	
48	41	41	
49	41	41	
4A	00	00	
4B	19	19	
4C	00	00	
4D	2E	2E	
4E	00	00	
4F	00	00	
50	00	00	
51	00	00	

Table 6-3-4 (2).

Address	Adjustment Data		
	Initial Value		Memo Column
	NTSC	PAL	
52	80	00	
53	80	80	
54	00	00	
55	00	00	
56	00	FD	
57	00	00	
58	00	22	
59	8B	5E	
5A	CA	7C	
5B	AA	7B	
5C	3C	3C	
5D	00	00	
5E	7A	7A	
5F	8D	8D	
60	7A	7A	
61	3A	3A	
62	C0	C0	
63	00	00	
64	A2	A2	
65	50	50	
66	8A	8A	
67	D8	D8	
68	46	60	
69	5A	40	
6A	35	20	
6B	00	F8	
6C	A6	AA	
6D	29	65	
6E	A2	A2	
6F	6A	70	
70	D5	D5	
71	D5	D5	
72	D5	D5	
73	D5	D5	
74	00	99	
75	00	8A	
76	BC	BC	
77	BC	BC	
78	BC	BC	
79	BC	BC	
7A	00	00	
7B	00	00	
7C	00	00	
7D	00	00	

Table 6-3-4 (3).

Address	Adjustment Data		
	Initial Value		Memo Column
	NTSC	PAL	
7E	80	80	
7F	80	80	
80	7C	7C	
81	80	80	
82	0C	0C	←
83	19	01	←
84	77	77	←
85	40	40	←
86	75	75	←
87	73	84	←
88	12	12	←
89	96	AA	←
8A	A5	A5	←
8B	68	68	←
8C	4A	4A	←
8D	F0	F0	←
8E	00	00	←
8F	01	01	←
90	68	28	←
91	80	60	←
92	10	40	←
93	31	29	←
94	68	28	←
95	70	70	←
96	40	40	←
97	2E	25	←
98	58	28	←
99	A0	80	←
9A	30	40	←
9B	14	1C	←
9C	58	28	←
9D	C0	FF	←
9E	30	40	←
9F	26	10	←
A0	78	28	←
A1	70	70	←
A2	4C	30	←
A3	06	0C	←
A4	58	28	←
A5	D0	E0	←
A6	60	30	←
A7	0F	0C	←
A8	62	60	←
A9	91	91	←

Table 6-3-4 (4).

Address	Adjustment Data		
	Initial Value		Memo Column
	NTSC	PAL	
AA	62	70	←
AB	A2	92	←
AC	60	70	←
AD	91	A2	←
AE	62	70	←
AF	A2	A3	←
B0	04	04	←
B1	E5	D5	←
B2	04	04	←
B3	F7	D6	←
B4	40	40	←
B5	00	00	←
B6	B3	B3	←
B7	B3	B3	←
B8	21	10	←
B9	05	01	←
BA	11	10	←
BB	03	03	←
BC	71	40	←
BD	15	32	←
BE	00	00	←
BF	00	00	←
C0	22	22	←
C1	80	80	←
C2	22	22	←
C3	20	20	←
C4	40	40	←
C5	00	00	←
C6	40	40	←
C7	00	00	←
C8	00	00	←
C9	27	27	←
CA	CA	CA	←
CB	00	00	←
CC	50	50	←
CD	C4	C4	←
CE	1B	1B	←
CF	D8	D8	←
D0	A0	A0	←
D1	30	28	←
D2	10	0D	←
D3	C0	C0	←
D4	6A	6A	←
D5	40	40	←

Table 6-3-4 (5).

Address	Adjustment Data		
	Initial Value		Memo Column
	NTSC	PAL	
D6	60	40	←
D7	55	55	←
D8	66	66	←
D9	25	25	←
DA	34	34	←
DB	3F	3F	←
DC	95	95	←
DD	00	00	←
DE	00	00	←
DF	00	00	
E0	F7	F5	
E1	1A	1A	←
E2	33	33	←
E3	FE	FE	←
E4	3C	3C	←
E5	24	24	←
E6	83	83	←
E7	A0	A0	←
E8	67	67	←
E9	4D	4D	←
EA	33	33	←
EB	5C	5C	←
EC	5C	5C	←
ED	5C	5C	←
EE	3C	3C	←
EF	0F	0F	←
F0	10	10	←
F1	2C	2C	←
F2	0A	0A	←
F3	36	36	←
F4	72	72	←
F5	46	46	←
F6	E0	E0	←
F7	50	50	←
F8	3B	3B	←
F9	10	10	←
FA	E8	E8	←
FB	90	90	←
FC	00	00	←
FD	02	02	←
FE	F0	F0	←
FF	80	80	←

Table 6-3-4 (6).

3-2. SYSTEM CONTROL SYSTEM ADJUSTMENTS

1. Initialization of E, F Page Data (original service manual page 6-47)

Note: If the E, and F page data has been initialized, the "Camera System Adjustments", "Serve System Adjustments" , and "Audio System Adjustments" need to be performed again.

Initializing method:

Adjust Page	E
Adjusting address	00 to59
Adjustment Page	F
Adjustment Address	10 to FF

1) Set data: 01 to page: 0, address: 01.
2) Set data: 2D to page: 2, address: 00.
3) Set data: 2D to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
4) Check that the data of page: 2, address: 02 is 01.
5) Set data: 00 to page: 0, address: 01.

2. Modification of F Page Data (original service manual page 6-47)

If the E and F page data has been initialized, change the data as shown in the table on the raigt by manual input.

Note: 1 Before changing the data, set data: 01 to page: 0, address: 01.

Note: 2 To write in the non-volatile memory (EEPROM) after canging the data, press the PAUSE button of the adjusting remote commander each time to set the new data.

Note: 3 After changing the data, set data: 00 to page: 0, address: 01. Also perform "Camera System Adjustments", "Servo System Adjustments", "Video System Adjustments", and "Audio System Adustments".

Address	NTSC	PAL
1C	76	77
20	00	
21		03
27	43	(41)[43]
28	44	44
56		FD
58		22
59	8B	5E
5A	CA	7C
5B	AA	7B
61	3A	3A
68	46	60
69	5A	40
6A	35	20
6B	00	F8
6C	A6	AA
6D	29	65
6F	6A	70
83	19	
85	40	40
87		84
89		A9
8F	01	01
90	68	28
91	80	60
92	10	40
93	31	39
94	68	2A
95	70	60
96	40	40

Address	NTSC	PAL
97	2E	39
98	58	28
99	A0	80
9A	30	40
9B	14	30
9C	58	28
9D	C0	FF
9E	30	40
9F	26	01
A0	78	28
A1	70	BB
A2	4C	30
A3	06	00
A4	58	28
A5	D0	FF
A6	60	30
A7	0F	00
A8	62	60
A9	91	91
AA	62	60
AB	A2	92
AD	91	A2
AE	62	60
AF	A2	A3
B1	E5	D5
B3	F7	D6
B4	40	40
B8	21	10
B9	05	01
BA	11	10
BB	03	03
BC	71	40
BD	15	32
CA		D2
D1	30	28
D2	10	0D
D6		40
DF	00	00
E0	F7	F5
E1	1A	1A
E2	33	33
E9	4D	4D
F9	10	10
FF	80	80

Note: 3 ( ) : CCD-SC65E (AEP, UK model)
[ ] : CCD-SC65E (E model)

3. Modification of E Page Data (original service manual page 6-49)

If the E and F page data has been initialized, change the data as shown in the following table by manual input.

Note: 1 Before changing the data, set data: 01 to page: 0, address: 01.

Note: 2 To write in the non-volatile memory (EEPROM) after canging the data, press the PAUSE button of the adjusting remote commander each time to set the new data.

Note: 3 After changing the data, set data: 00 to page: 0, address: 01. Also perform "Camera System Adjustments", "Servo System Adjustments", "Video System Adjustments", and "Audio System Adjustments".

Address	NTSC	PAL
03	4F	4F
04	5D	5D
05	66	66
12	9A	9A
13	88	88
14	EA	EA
15	28	28
20	A0	
21	C6	
36	20	20
37	30	30
38	20	20
39	50	40
3A	2C	2A
3B	4C	3A
3C	24	20
3D	26	24
40	CC	28
46	30	22
48	04	08
4B	00	00
4C	77	95
4E	02	02
50	FA	FA

4. Initialization of D Page Data (original service manual page 6-49)

Note: If the D page data has been initialized, perform "LCD System Adjustment" and "Battery Down Adjustment" again.

Adjust Page	D
Adjusting address	10 to63

Initialization method:

1) Set data: 01 to page: 0, address: 01.
2) Set data: 2D to page: 3, address: 00.
3) Set data: 2D to page: 3, address: 01, and press the PAUSE button of the adjusting remote commander.
4) Check that the data of page:3, address: 02 is 01.
5) Set data: 29 to page: 3, address: 00.
6) Set data: 29 to page: 3, address: 01, and press the PAUSE button of the adjusting remote commander.
7) Set data: 00 to page: 0, address: 01.
8) "Modification of D Page Data" again.

5. Modification of D Page Data (original service manual page 6-50)

If the D page data has been initialized, change the data as shown in the following table by manual input.

Note: 1 Before changing the data, set data: 01 to page: 0, address: 01.

Note: 2 To write in the non-volatile memory (EEPROM) after canging the data, press the PAUSE button of the adjusting remote commander each time to set the new data.

Note: 3 After changing the data, set data: 00 to page: 0, address: 01. and perform "LCD System Adjustment" and "Battery Down Adjustment".

( ): CCD-SC65E (AEP, UK model)
[ ]: CCD-SC65E (E model)

Address	NTSC	PAL
11	02	(06)[07]
12	6E	(FC)[FE]
13	70	70
14	07	07
15	F1	F1
16	01	01
17	0F	0F
18	01	01
19	36	36
1A	17	17
1B	2D	2D
1C	0B	0B
1F	18	18
21	C0	(40) [C0]
22	00	00
23	65	65
24	15	15
25	68	56
26	05	05
27	E7	E7
31	69	69
32	24	24
33	C0	C0
34	07	07
36	FF	00
37	02	02
39	04	04
3A	0A	0A
3B	32	32
3F	02	02
51	80	80
52	8A	8A
53	52	73
54	56	68
55	72	73
56	65	5F
57	97	96
58	97	97
59	3B	35
5A	62	62
5B	76	7E
5C	80	80
5D	8A	8A
5E	00	68
5F	80	80
60	00	F0
61	00	60
62	58	58
63	93	93

Sony Corporation
Personal A&V Products Company

97F0587-1
Printed in Japan © 1997. 6
Published by Quality Engineering Dept.
(Osaki East)

V18668

CCD-SC65/SC65E
RMT-717

SONY

SERVICE MANUAL

US Model
Canadian Model
CCD-SC65
AEP Model
UK Model
CCD-SC65E
E Model
CCD-SC65/SC65E

CORRECTION-1

File this supplement with the service manual.

(98-010)

Electrical Parts List correct

See original Service manual page 5 – 9.

5-2. ELECTRICAL PARTS LIST

- Differences of Boards

Page	CCD-SC55/SC55E			CCD-SC65/SC65E	
		Part No.	Description	Part No.	Description
	Change of board name				
5-11	*	A-7066-854-A	CH-92 BOARD, COMPLETE (SC55E)	A-7093-329-A	CH-94 BOARD, COMPLETE (SC65E)
	*	A-7092-994-A	CH-92 BOARD, COMPLETE (SC55)	A-7093-338-A	CH-94 BOARD, COMPLETE (SC65)
5-15	*	A-7072-803-A	MA-260 BOARD, COMPLETE (SC55E)	☛ A-7073-228-A	MA-319 BOARD, COMPLETE (SC65E)
	*	A-7072-833-A	MA-260 BOARD, COMPLETE (SC55)	A-7073-298-A	MA-319 BOARD, COMPLETE (SC65)

☛ : Points corrected portion.

Incorrect	Correct
A-7073-228-A MA-319 BOARD, COMPLETE (SC65E) ☛	A-7073-288-A MA-319 BOARD, COMPLETE (SC65E) ☛

98H0584-1
Printed in Japan © 1998. 8
**Published by Quality Engineering Dept.
(Osaki East)**

**Sony Corporation
Personal A&V Products Company**

9-973-979-91

J18668

CCD-SC65/SC65E

RMT-717

SONY

SERVICE MANUAL

US Model
Canadian Model
CCD-SC65
AEP Model
UK Model
CCD-SC65E
E Model
CCD-SC65/SC65E

CORRECTION-2

File this correction with the service manual.

(98-015)

Change of board

- Though we have described previously that VA-101 board has been changed nothing but its board name, we would like to notify you about a portion which has been changed in VA-101 board. About printed wiring board, please refer to CCD-SC55/SC55E service manual (9-973-887-11) as usual.

☞ : Points added portion.
☛ : Points deleted portion.

- **Main differences:**
  LCD backlight switch added
  Lighting window added
  Lens cap added
  Cap string added
- **Change of boards:**
  FP-345 board → FP-595 board
  PD-64 board → PD-90 board
  VA-96 board → VA-101 board ☜
- **Change of board name:**
  CH-92 board → CH-94 board
  MA-260 board → MA-319 board
  VA-96 board → VA-101 board ☚
  VD-25 board → VD-27 board

• VA-101 BOARD PARTS LOCATION (CCD-SC55/SC55E service manual page 4-58)

☞ : Points added parts.

☛ : Points deleted parts.

VA-101 BOARD

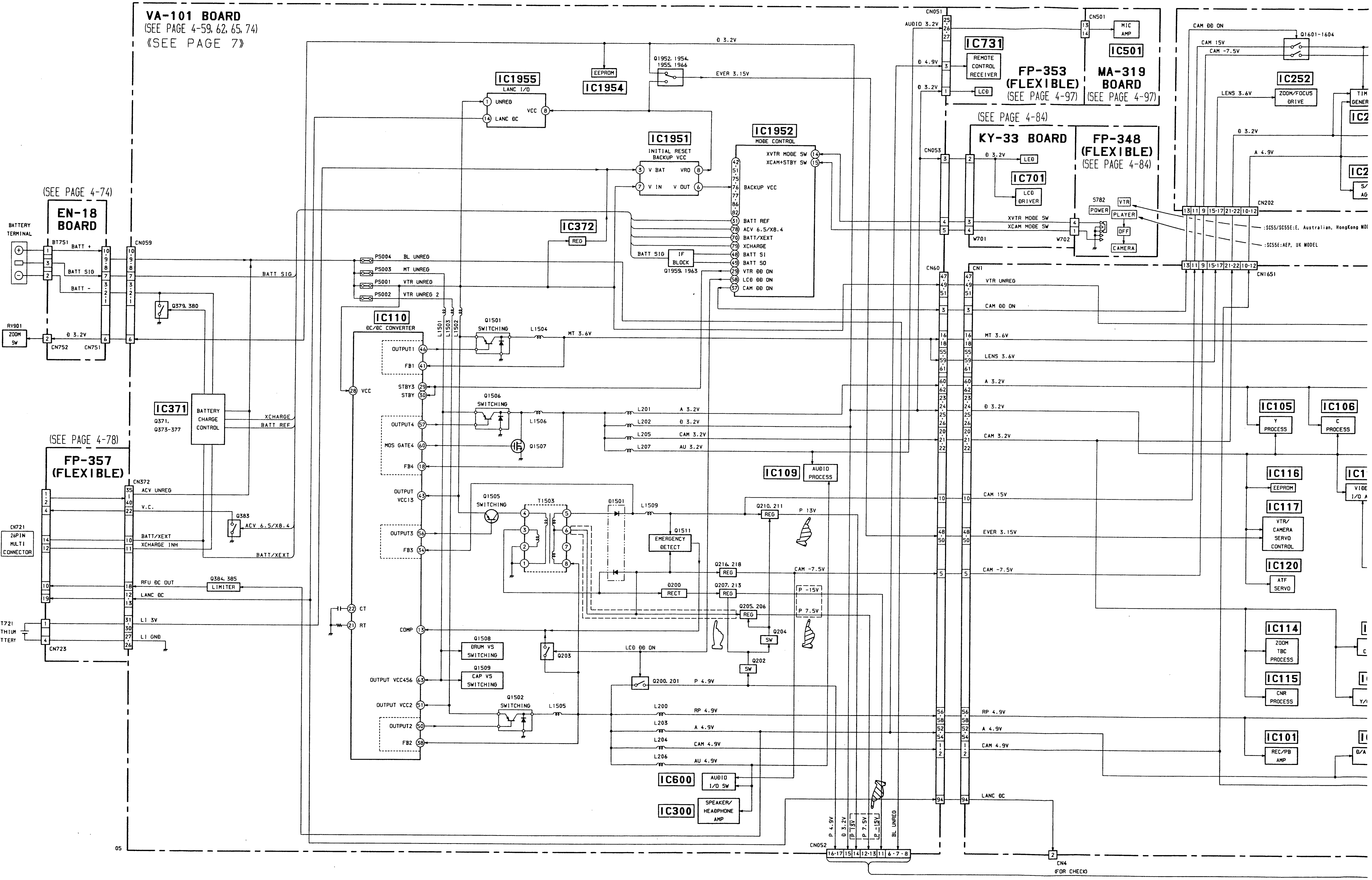
	C201	A-6
	C202	A-8
	C203	B-6
	C204	B-6
	C205	A-8
	C206	A-5
	C207	B-5
	C209	A-15
	C211	B-15
	C212	B-15
	C213	C-14
	C214	D-15
	C215	D-14
	C216	C-15
	C217	B-14
	C218	B-15
	C219	B-7
	C300	B-13
	C301	A-12
	C302	A-12
	C303	A-13
	C304	B-13
	C305	A-12
	C306	A-12
	C307	A-12
	C309	A-12
	C310	A-12
	C311	B-12
	C312	B-13
	C314	B-12
	C315	B-12
	C316	B-12
	C318	C-13
	C319	C-12
	C371	F-18
	C372	E-12
	C373	E-12
	C374	C-13
	C377	C-13
	C602	D-4
	C603	E-4
	C604	E-3
	C605	D-4
	C606	E-4
	C1402	E-15
	C1403	E-15
	C1404	F-15
	C1405	F-15
	C1406	F-15
	C1407	F-17
	C1408	F-16
	C1409	F-16
	C1410	F-16
	C1411	F-16
	C1412	F-17
	C1414	F-17
	C1415	F-17
	C1416	F-17
	C1417	F-17
	C1421	E-18
	C1422	F-18
	C1423	F-18
	C1424	F-18
	C1425	F-18
	C1426	F-17
	C1427	E-17
	C1429	E-18
	C1430	E-17
	C1431	E-18
	C1432	D-18
	C1433	D-17
	C1434	E-18
	C1435	D-17
	C1436	D-17
	C1437	D-17
	C1439	D-16
	C1471	D-16
	C1472	E-18
	C1473	F-18
	C1474	F-16
	C1475	E-18
	C1501	B-19
	C1502	D-2
	C1503	B-19
	C1504	C-17
	C1505	B-18
	C1506	B-16
	C1507	C-17
	C1508	B-19
	C1509	B-17
	C1510	A-16
	C1511	B-16
	C1512	B-17
	C1513	C-16
	C1514	D-16
	C1516	D-20
	C1517	D-20
	C1518	E-20
	C1519	E-20
	C1520	D-19
	C1521	D-20
	C1522	E-20
	C1523	E-20
	C1524	C-20
	C1525	C-20
	C1526	C-20
	C1527	E-20
	C1528	D-19
	C1530	D-19
	C1532	D-19
	C1534	C-19
	C1536	C-19
	C1538	C-19
☞	C1545	C-16
	C1546	A-19
	C1951	C-5
	C1952	D-6
	C1955	D-13
	C1956	E-13
	C1957	D-7
	C1958	D-7
	C1959	E-12
	C1961	D-12
	C1976	D-8
	C1977	F-7
	C1978	F-8
	C1981	E-8
	C1982	E-8
	C1984	C-7
	C1986	E-5
	C1987	C-7
	C1988	B-8
	C1989	B-8
	C1990	F-7
	CN53	F-5
	CN59	C-1
	CN60	B-14
	CN051	F-4
	CN052	F-2
	CN061	C-1
	CN371	F-9
	CN372	C-9
	D052	F-3
	D053	F-4
	D200	A-6
	D300	C-12
	D371	F-19
	D372	E-20
	D373	F-20
	D374	F-19
	D378	D-12
	D379	C-8
	D380	C-13
	D381	C-13
	D382	C-13
	D383	C-8
	D384	E-12
	D385	E-12
	D386	F-12
	D388	E-8
	D389	F-8
	D390	E-12
	D391	E-12
	D392	F-12
	D393	E-12
	D394	F-12
	D395	C-13
	D396	B-8
	D397	D-13
	D398	E-13
	D400	C-12
	D401	E-13
	D402	C-6
	D403	C-7
	D1501	C-17
☞	D1502	C-16
	D1503	D-20
	D1951	C-5
	D1952	D-6
	D1953	D-8
	D1955	D-13
	D1956	E-8
	D1957	C-8
	IC109	E-16
	IC110	D-19
	IC300	B-12
	IC371	F-19
	IC372	D-13
	IC600	E-4
	IC1951	D-13
	IC1952	E-6
	IC1954	C-6
	IC1955	C-8
	L1	F-3
	L200	B-15
	L201	B-16
	L202	C-15
	L203	C-15
	L204	D-15
	L205	C-16
	L206	B-15
	L207	B-15
	L400	E-8
	L401	E-8
	L404	F-8
	L1501	A-3
	L1502	C-3
	L1503	B-3
	L1504	C-4
	L1505	B-4
	L1506	A-4
	L1507	A-5
	L1508	B-5
	L1509	C-16
	L1951	D-13
	PS001	C-2
	PS002	C-2
	PS003	C-2
	PS004	C-2
	Q002	B-7
	Q201	B-7
	Q202	A-7
	Q203	A-7
	Q204	A-7
	Q205	A-6
	Q206	A-7
	Q207	B-6
	Q210	B-8
	Q211	B-8
	Q213	B-6
	Q216	A-15
	Q218	A-15
	Q304	B-8
	Q305	B-8
	Q371	F-19
	Q373	E-19
	Q374	E-19
	Q375	E-20
	Q376	D-2
	Q377	E-19
	Q379	E-3
	Q380	D-3
	Q382	C-12
	Q383	D-12
	Q384	C-12
	Q385	D-12
	Q386	E-19
	Q603	D-5
	Q604	E-5
	Q605	E-4
	Q606	D-4
	Q607	F-4
	Q608	E-4
	Q609	E-5
	Q610	D-4
	Q611	E-5
	Q1405	C-17
	Q1406	A-18
	Q1501	C-18
	Q1502	B-18
	Q1505	C-17
	Q1506	A-18
	Q1507	A-17
	Q1508	A-17
	Q1509	B-17
	Q1511	C-16
	Q1952	C-5
	Q1954	C-6
	Q1955	D-5
	Q1959	D-8
	Q1962	E-8
	Q1963	D-8
	Q1964	D-5
	Q1966	C-5
	R200	B-7
	R201	B-7
	R202	A-7
	R203	B-7
	R204	B-7
	R205	A-6
☛	R206	A-6
	R207	A-7
	R208	A-6
	R209	B-6
	R211	B-6
	R213	B-7
	R214	B-8
☛	R215	A-5
	R216	A-5
	R217	A-6
	R218	B-5
	R219	B-6
	R220	A-6
	R221	B-6
	R223	A-15
	R224	A-15
	R225	B-16
	R226	A-16
	R227	A-15
	R228	A-15
☛	R233	A-7
	R235	A-6
☞	R236	A-6
	R237	B-7
☞	R238	A-6
	R240	A-7
	R302	A-13
	R303	A-13
	R304	B-13
	R312	B-12
	R313	B-12
	R314	B-13
	R316	B-12
	R317	B-8
	R318	B-8
	R372	F-20
	R373	E-19
	R374	F-19
	R375	F-19
	R376	F-20
	R377	F-20
	R378	F-19
	R379	F-19
	R380	E-19
	R381	F-19
	R382	F-19
	R383	E-20
	R384	F-19
	R385	D-2
	R386	F-20
	R387	F-19
	R388	F-20
	R390	E-2
	R392	C-12
	R394	D-12
	R395	E-19
	R396	D-13
	R397	C-12
	R398	C-12
	R399	C-12
	R400	C-12
	R401	F-12
	R402	F-12
	R403	F-12
	R405	F-12
	R407	F-8
	R408	F-12
	R409	E-8
	R414	E-12
	R415	E-12
	R416	C-13
	R417	C-12
	R418	C-12
	R419	E-12
	R420	E-8
	R605	D-4
	R606	E-4
	R607	D-4
	R608	E-4
	R609	E-3
	R610	E-4
	R611	E-4
	R612	D-4
	R613	F-4
	R614	D-4
	R615	F-5
	R1402	E-16
	R1403	D-16
	R1404	F-16
	R1406	F-17
	R1407	F-17
	R1408	F-17
	R1409	E-18
	R1410	E-18
	R1415	E-18
	R1418	F-18
	R1419	E-17
	R1421	E-18
	R1422	D-18
	R1423	E-17
	R1424	D-18
	R1425	D-17
	D1426	D-17
	R1429	D-16
	R1430	F-18
	R1431	E-18
	R1460	E-17
	R1463	E-15
	R1466	F-18
	R1472	F-17
	R1476	B-15
	R1477	E-17
	R1501	D-20
	R1502	D-20
	R1503	E-19
	R1504	E-19
	R1505	D-20
	R1506	E-20
	R1508	E-20
	R1509	C-20
	R1510	C-20
	R1511	C-20
	R1512	D-19
	R1513	E-19
	R1514	D-19
	R1515	C-19
	R1516	C-19
	R1517	C-19
	R1518	E-20
	R1519	E-20
	R1522	C-20
	R1523	C-15
	R1524	C-16
	R1525	E-19
	R1528	C-16
	R1529	C-20
	R1953	C-6
	R1954	C-5
	R1955	D-6
	R1956	C-8
	R1957	D-8
	R1958	C-8
	R1959	C-7
	R1960	F-5
	R1962	E-13
	R1963	E-5
	R1964	E-5
	R1965	E-5
	R1966	E-5
	R1967	E-5
	R1969	E-5
	R1970	D-5
	R1972	E-5
	R1973	F-5
	R1974	E-5
	R1975	E-5
	R1976	E-5
	R1977	E-5
	R1978	D-5
	R1979	C-7
	R1980	C-7
	R1983	F-6
	R1984	F-7
	R1987	F-7
	R1988	F-7
	R1991	F-7
	R1992	F-7
	R1993	F-7
	R1994	F-6
	R1995	F-6
	R1996	F-7
	R1997	F-7
	R1998	F-7
	R1999	F-6
	R2000	F-7
	R2001	E-12
	R2003	F-7
	R2006	F-7
	R2011	D-12
	R2012	F-7
	R2013	E-13
	R2015	E-8
	R2017	E-13
	R2018	E-8
	R2019	E-13
	R2020	E-8
	R2021	F-7
	R2022	E-8
	R2023	E-8
	R2024	E-8
	R2027	E-13
	R2028	F-8
	R2029	F-8
	R2030	E-8
	R2031	E-8
	R2032	F-7
	R2033	F-7
	R2036	C-7
	R2037	C-7
	R2038	C-7
	R2039	D-5
	R2040	F-8
	R2041	D-7
	R2042	F-7
	R2043	D-5
	R2044	C-7
	R2046	C-7
	R2047	D-8
	R2048	D-8
	R2049	B-8
	T1503	C-5
	X1951	D-8
	X1952	D-6

- **BLOCK DIAGRAM**

(CCD-SC55/SC55E service manual page 3-29 to 3-32)

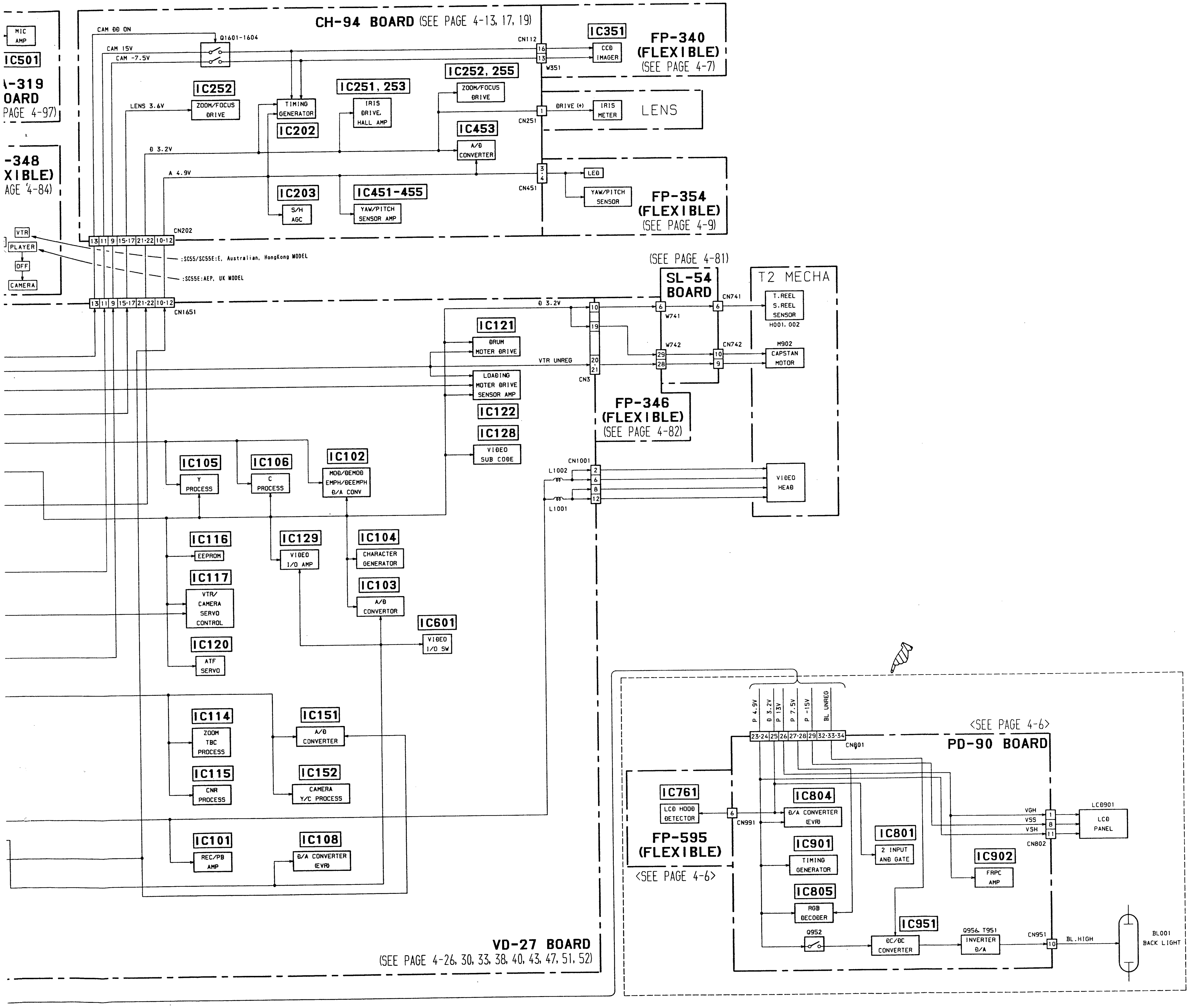
3-8. POWER BLOCK DIAGRAM

(SEE PAGE □□) : Pages on the CCD-SC55/SC55E service manual.
<SEE PAGE □□> : Pages on the CCD-SC65/SC65E service manual.
<<SEE PAGE □□>>: Pages on this service manual.
☞ : Points added portion.
☞ : Points changed portion.



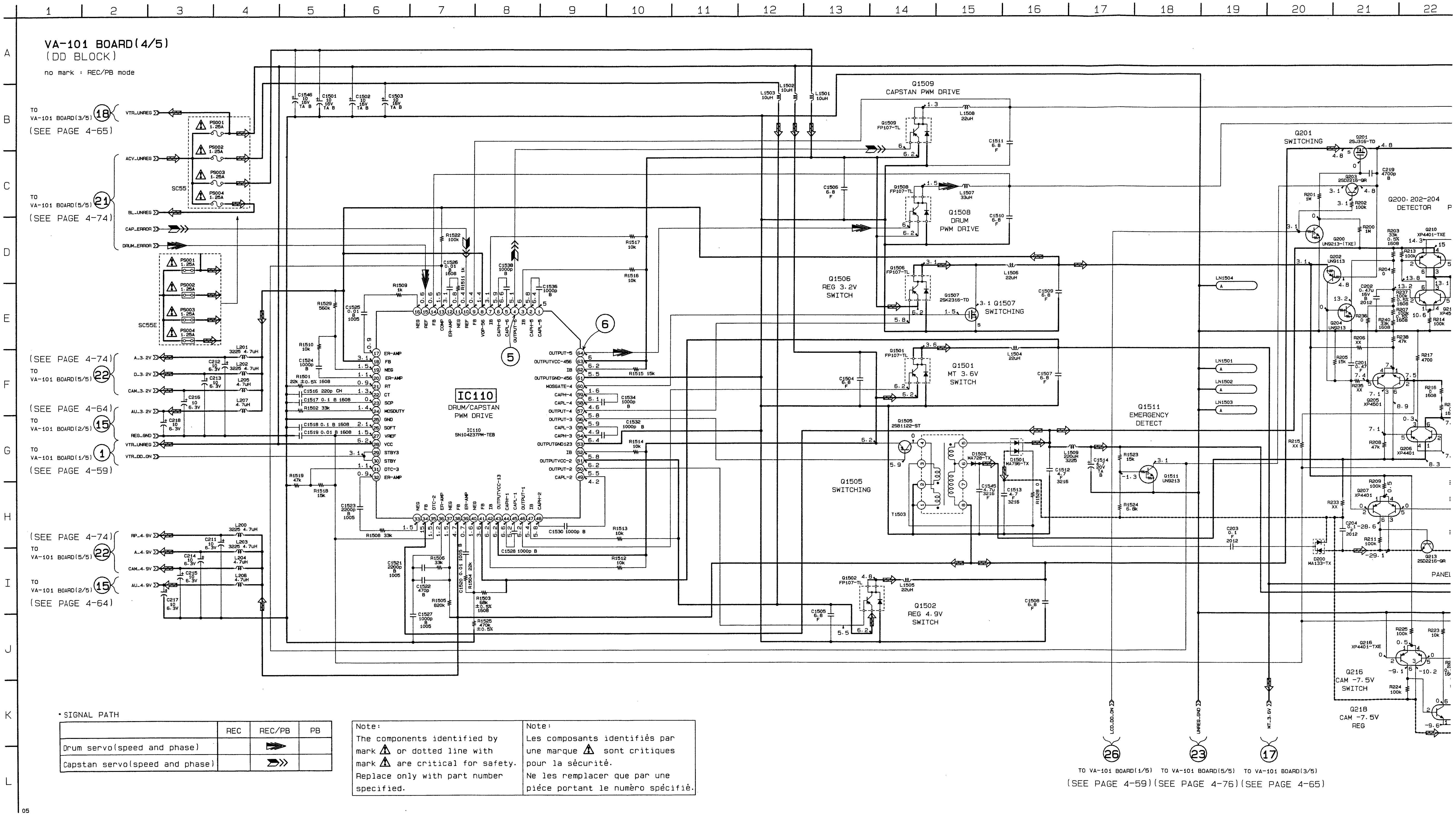
VA-101 BOARD
(SEE PAGE 4-59, 62, 65, 74)
《SEE PAGE 7》
EN-18 BOARD
(SEE PAGE 4-74)
BATTERY TERMINAL
BT751
BATT +
BATT SIG
BATT -
CN059
RY901 ZOOM SW
Ð 3.2V
CN752
CN751
Q379, 380
IC371
Q371, Q373-377
BATTERY CHARGE CONTROL
XCHARGE
BATT REF
FP-357 (FLEXIBLE)
(SEE PAGE 4-78)
CN721 26PIN MULTI CONNECTOR
CN372
ACV UNREG
V.C.
Q383
ACV 6.5/X8.4
BATT/XEXT
XCHARGE INH
RFU DC OUT
Q384, 385 LIMITER
LANC DC
LI 3V
LI GND
BT721 LITHIUM BATTERY
CN723
05
PS004 BL UNREG
PS003 MT UNREG
PS001 VTR UNREG
PS002 VTR UNREG 2
IC110
DC/DC CONVERTER
OUTPUT1
FB1
VCC
STBY3
STBY
OUTPUT4
MOS GATE4
FB4
OUTPUT VCC13
OUTPUT3
FB3
CT
RT
COMP
OUTPUT VCC456
OUTPUT VCC2
OUTPUT2
FB2
L1501
L1503
L1502
Q1501 SWITCHING
L1504
MT 3.6V
Q1506 SWITCHING
L1506
Q1507
L201 A 3.2V
L202 Ð 3.2V
L205 CAM 3.2V
L207 AU 3.2V
Q1505 SWITCHING
T1503
D1501
L1509
Q210, 211 REG
P 13V
Q1511 EMERGENCY DETECT
Q216, 218 REG
CAM -7.5V
D200 RECT
Q207, 213 REG
P -15V
P 7.5V
Q205, 206 REG
Q204 SW
Q202 SW
Q1508 DRUM VS SWITCHING
Q1509 CAP VS SWITCHING
Q203
LCD ÐÐ ON
Q200, 201
P 4.9V
Q1502 SWITCHING
L1505
L200 RP 4.9V
L203 A 4.9V
L204 CAM 4.9V
L206 AU 4.9V
IC600 AUDIO I/O SW
IC300 SPEAKER/HEADPHONE AMP
IC109 AUDIO PROCESS
IC1955 LANC I/O
UNREG
LANC DC
VCC
EEPROM
IC1954
Q1952, 1954, 1955, 1966
EVER 3.15V
Ð 3.2V
IC1951 INITIAL RESET BACKUP VCC
V BAT
VRO
V IN
V OUT
IC372 REG
IC1952 MODE CONTROL
XVTR MODE SW
XCAM+STBY SW
BACKUP VCC
BATT REF
ACV 6.5/X8.4
BATT/XEXT
XCHARGE
BATT SI
BATT SO
VTR ÐÐ ON
LCD ÐÐ ON
CAM ÐÐ ON
BATT SIG
IF BLOCK
Q1959, 1963
CN052
P 4.9V
Ð 3.2V
P 15V
P 7.5V
P -15V
BL UNREG
CN051
AUDIO 3.2V
Ð 4.9V
Ð 3.2V
IC731 REMOTE CONTROL RECEIVER
LCD
FP-353 (FLEXIBLE)
(SEE PAGE 4-97)
CN501
MIC AMP
IC501
MA-319 BOARD
(SEE PAGE 4-97)
(SEE PAGE 4-84)
KY-33 BOARD
CN053
LED
IC701 LCD DRIVER
FP-348 (FLEXIBLE)
(SEE PAGE 4-84)
S782
VTR
POWER
PLAYER
OFF
CAMERA
XVTR MODE SW
XCAM MODE SW
W701
W702
CN60
CN1
VTR UNREG
CAM ÐÐ ON
MT 3.6V
LENS 3.6V
A 3.2V
Ð 3.2V
CAM 3.2V
CAM 15V
EVER 3.15V
CAM -7.5V
RP 4.9V
A 4.9V
CAM 4.9V
LANC DC
CN4 (FOR CHECK)
CAM ÐÐ ON
CAM 15V
CAM -7.5V
Q1601-1604
IC252 ZOOM/FOCUS DRIVE
LENS 3.6V
TIM GENER
Ð 3.2V
A 4.9V
CN202
CN1651
:SC55/SC55E:E, Australian, HongKong MO
:SC55E:AEP, UK MODEL
IC105 Y PROCESS
IC106 C PROCESS
IC116 EEPROM
IC117 VTR/CAMERA SERVO CONTROL
IC120 ATF SERVO
IC114 ZOOM TBC PROCESS
IC115 CNR PROCESS
IC101 REC/PB AMP
VIDE I/O
Y/
D/A

Cart. 2


CH-94 BOARD (SEE PAGE 4-13, 17, 19)
CAM DD ON
Q1601-1604
CAM 15V
CAM -7.5V
LENS 3.6V
D 3.2V
A 4.9V
IC252
ZOOM/FOCUS DRIVE
TIMING GENERATOR
IC202
IC251, 253
IRIS DRIVE, HALL AMP
IC252, 255
ZOOM/FOCUS DRIVE
IC453
A/D CONVERTER
IC203
S/H AGC
IC451-455
YAW/PITCH SENSOR AMP
CN112
W351
CN251
CN451
CN202
IC351
CCD IMAGER
FP-340 (FLEXIBLE) (SEE PAGE 4-7)
DRIVE (+)
IRIS METER
LENS
LED
YAW/PITCH SENSOR
FP-354 (FLEXIBLE) (SEE PAGE 4-9)
MIC AMP
IC501
-319 OARD PAGE 4-97)
-348 XIBLE) AGE 4-84)
VTR
PLAYER
OFF
CAMERA
:SC55/SC55E:E, Australian, HongKong MODEL
:SC55E:AEP, UK MODEL
CN1651
13 11 9 15-17 21-22 10-12
D 3.2V
(SEE PAGE 4-81)
SL-54 BOARD
CN741
W741
W742
CN742
T2 MECHA
T.REEL S.REEL SENSOR
H001, 002
M902
CAPSTAN MOTOR
IC121
DRUM MOTER DRIVE
VTR UNREG
CN3
LOADING MOTER DRIVE SENSOR AMP
IC122
IC128
VIDEO SUB CODE
FP-346 (FLEXIBLE) (SEE PAGE 4-82)
CN1001
L1002
L1001
VIDEO HEAD
IC105
Y PROCESS
IC106
C PROCESS
IC102
MOD/DEMOD EMPH/DEEMPH D/A CONV
IC116
EEPROM
IC129
VIDEO I/O AMP
IC104
CHARACTER GENERATOR
IC117
VTR/ CAMERA SERVO CONTROL
IC103
A/D CONVERTOR
IC601
VIDEO I/O SW
IC120
ATF SERVO
IC114
ZOOM TBC PROCESS
IC151
A/D CONVERTER
IC115
CNR PROCESS
IC152
CAMERA Y/C PROCESS
IC101
REC/PB AMP
IC108
D/A CONVERTER (EVR)
VD-27 BOARD
(SEE PAGE 4-26, 30, 33, 38, 40, 43, 47, 51, 52)
P 4.9V
D 3.2V
P 13V
P 7.5V
P -15V
BL UNREG
23-24 25 26 27-28 29 32-33-34
CN801
<SEE PAGE 4-6>
PD-90 BOARD
IC761
LCD HOOD DETECTOR
CN991
FP-595 (FLEXIBLE)
<SEE PAGE 4-6>
IC804
D/A CONVERTER (EVR)
IC901
TIMING GENERATOR
IC801
2 INPUT AND GATE
IC805
RGB DECODER
IC902
FRPC AMP
VGH
VSS
VSH
CN802
LCD901
LCD PANEL
Q952
IC951
DC/DC CONVERTER
Q956, T951
INVERTER D/A
CN951
BL.HIGH
BL001
BACK LIGHT

- **SCHEMATIC DIAGRAM**
  (CCD-SC55/SC55E service manual page 4-70 to 4-72)
  VA-101 (POWER) SCHEMATIC DIAGRAM

(SEE PAGE □□): Pages on the CCD-SC55/SC55E service manual.

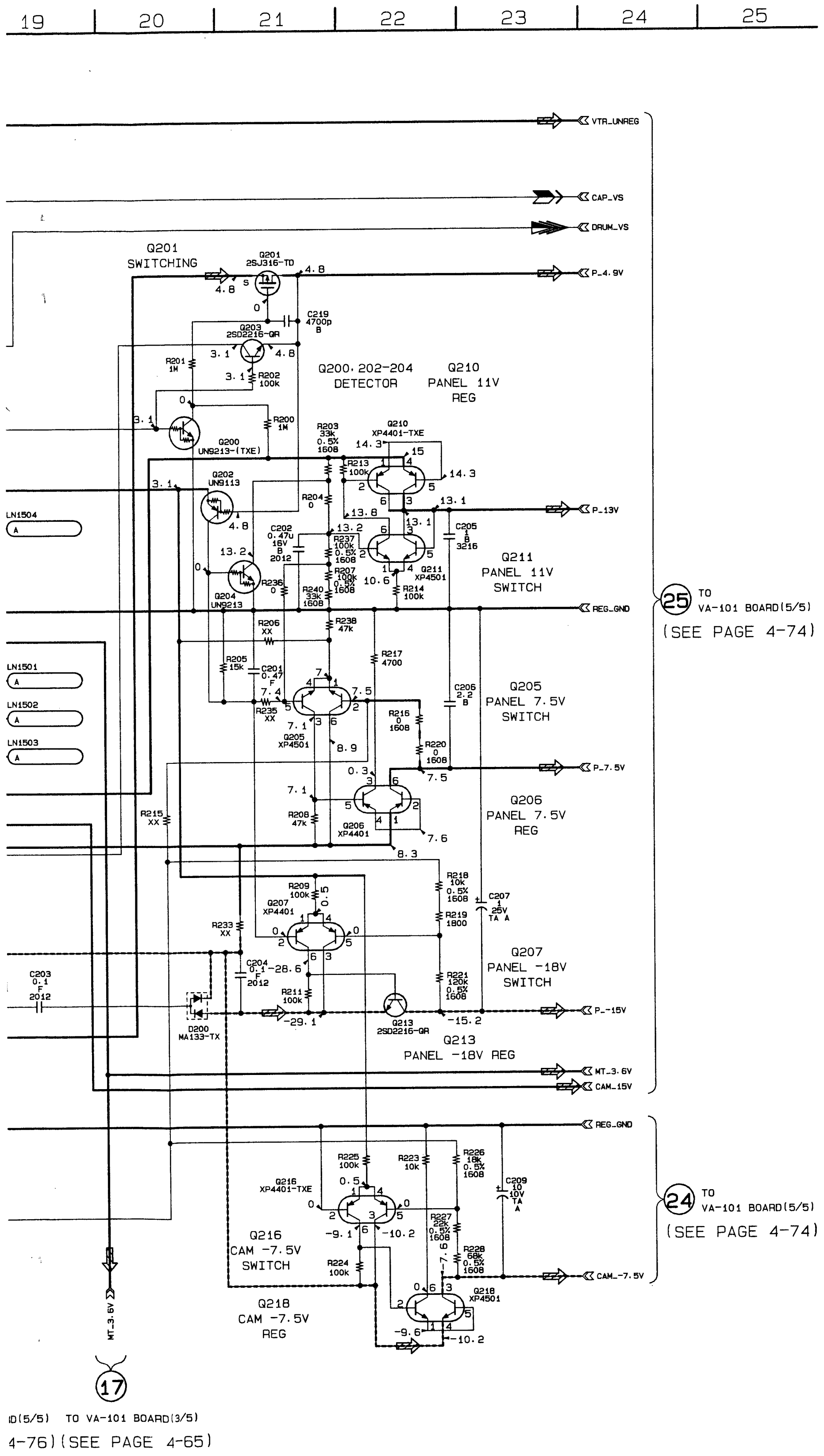


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
A B C D E F G H I J K L
VA-101 BOARD(4/5)
(DD BLOCK)
no mark : REC/PB mode
TO VA-101 BOARD(3/5) ⑱ (SEE PAGE 4-65)
TO VA-101 BOARD(5/5) ㉑ (SEE PAGE 4-74)
VTR_UNREG
ACV_UNREG
BL_UNREG
CAP_ERROR
DRUM_ERROR
PS001 1.25A
PS002 1.25A
PS003 1.25A
PS004 1.25A
SC55
SC55E
(SEE PAGE 4-74) TO VA-101 BOARD(5/5) ㉒
(SEE PAGE 4-64) TO VA-101 BOARD(2/5) ⑮
TO VA-101 BOARD(1/5) ① (SEE PAGE 4-59)
(SEE PAGE 4-74) TO VA-101 BOARD(5/5) ㉒
TO VA-101 BOARD(2/5) ⑮ (SEE PAGE 4-64)
A_3.2V
D_3.2V
CAM_3.2V
AU_3.2V
REG_GND
VTR_UNREG
VTR_DD_ON
RP_4.9V
A_4.9V
CAM_4.9V
AU_4.9V
IC110
DRUM/CAPSTAN PWM DRIVE
IC110 SN104237PM-TEB
ER-AMP FB NEG ER-AMP RT CT SCP MOSDUTY GND SOFT VREF VCC STBY3 STBY DTC-3 ER-AMP
OUTPUT-5 OUTPUTVCC-456 IB OUTPUTGND-456 MOSGATE-4 CAPH-4 CAPL-4 OUTPUT-4 OUTPUT-3 CAPL-3 CAPH-3 OUTPUTGND123 IB OUTPUTVCC-2 OUTPUT-2 CAPL-2
⑤ ⑥
Q1509 CAPSTAN PWM DRIVE
Q1508 DRUM PWM DRIVE
Q1506 REG 3.2V SWITCH
Q1507 SWITCHING
Q1501 MT 3.6V SWITCH
Q1505 SWITCHING
Q1502 REG 4.9V SWITCH
Q1511 EMERGENCY DETECT
Q201 SWITCHING
Q200, 202-204 DETECTOR
Q216 CAM -7.5V SWITCH
Q218 CAM -7.5V REG
PANEL
T1503
LN1504 LN1501 LN1502 LN1503
LCD_DD_ON UNREG_GND MT_3.6V
㉖ ㉓ ⑰
TO VA-101 BOARD(1/5) (SEE PAGE 4-59)
TO VA-101 BOARD(5/5) (SEE PAGE 4-76)
TO VA-101 BOARD(3/5) (SEE PAGE 4-65)
05

• SIGNAL PATH

	REC	REC/PB	PB
Drum servo(speed and phase)		➡	
Capstan servo(speed and phase)		➡»	

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numèro spécifié.


19
20
21
22
23
24
25
VTR_UNREG
CAP_VS
DRUM_VS
P_4.9V
Q201 SWITCHING
Q201 2SJ316-TD
Q203 2SD2216-QR
Q200, 202-204 DETECTOR
Q210 PANEL 11V REG
Q210 XP4401-TXE
Q200 UN6213-(TXE)
Q202 UN9113
Q204 UN9213
P_13V
Q211 PANEL 11V SWITCH
Q211 XP4501
REG_GND
LN1504
LN1501
LN1502
LN1503
Q205 PANEL 7.5V SWITCH
Q205 XP4501
P_7.5V
Q206 PANEL 7.5V REG
Q206 XP4401
Q207 XP4401
Q207 PANEL -18V SWITCH
D200 MA133-TX
Q213 2SD2216-QR
Q213 PANEL -18V REG
P_-15V
MT_3.6V
CAM_15V
REG_GND
Q216 XP4401-TXE
Q216 CAM -7.5V SWITCH
Q218 XP4501
Q218 CAM -7.5V REG
CAM_-7.5V
25 TO VA-101 BOARD(5/5) (SEE PAGE 4-74)
24 TO VA-101 BOARD(5/5) (SEE PAGE 4-74)
17
D(5/5) TO VA-101 BOARD(3/5)
4-76) (SEE PAGE 4-65)

• Difference points

Location: D to I - 21 to 23

Ref. No.	CCD-SC55/SC55E	CCD-SC65/SC65E
C202	0.1/16V	0.47/16V
Q205	XP4401	XP4501
Q206	XP4501	XP4401
R203	27K	33K
R204	2.7K	0
R206	47K	XX
R207	82K	100K
R215	18K	XX
R216	22K	0
R219	0	1.8K
R220	68K	0
R233	0	XX
R235	0	XX
R236	XX	0
R237	0	100K
R238	XX	47K
R240	0	33K

Location: H - 15

Ref.No.	CCD-SC55/SC55E	CCD-SC65/SC65E
C1545	XX	4.7/16V
D1502	XX	MA728

Note 1) XX MARK: NO MOUNT

Note 2) The schematic diagram that is mentioned here has been revised for CCD-SC65/SC65E.

Note 3) Refer to page 10 for parts number.

• ELECTRICAL PARTS LIST (CCD SC55/SC55E service manual page 5-19 to 5-22)

Page	CCD-SC55/SC55E (VA-96 BOARD)				CCD-SC65/SC65E (VA-101 BOARD)			
	Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
5-19	C202	1-165-319-11	CERAMIC CHIP 0.1uF	50V	C202	1-107-823-11	CERAMIC CHIP 0.47uF 10%	16V
5-20	C1545	—			C1545	1-164-506-11	CERAMIC CHIP 4.7uF	16V
5-21	D1502	—			D1502	8-719-421-27	DIODE MA728	
	Q205	8-729-427-70	TRANSISTOR XP4401		Q205	8-729-427-72	TRANSISTOR XP4501	
	Q206	8-729-427-72	TRANSISTOR XP4501		Q206	8-729-427-70	TRANSISTOR XP4401	
5-22	R203	1-218-881-11	METAL CHIP 27K 0.50%	1/16W	R203	1-218-883-11	RES, CHIP 33K 0.50%	1/16W
	R204	1-218-958-11	METAL GLAZE 2.7K 5%	1/16W	R204	1-218-990-11	CONDUCTOR, CHIP(1005)	
	R206	1-218-973-11	METAL GLAZE 47K 5%	1/16W	R206	—		
	R207	1-218-893-11	METAL CHIP 82K 0.50%	1/16W	R207	1-218-895-11	RES, CHIP 100K 0.50%	1/16W
	R215	1-218-877-11	METAL CHIP 18K 0.50%	1/16W	R215	—		
	R216	1-218-879-11	METAL CHIP 22K 0.50%	1/16W	R216	1-216-864-11	METAL CHIP 0 5%	1/16W
	R219	1-218-990-11	CONDUCTOR, CHIP(1005)		R219	1-218-956-11	RES, CHIP 1.8K 5%	1/16W
	R220	1-218-891-11	METAL CHIP 68K 0.50%	1/16W	R220	1-216-864-11	METAL CHIP 0 5%	1/16W
	R233	1-218-990-11	CONDUCTOR, CHIP(1005)		R233	—		
	R235	1-218-990-11	CONDUCTOR, CHIP(1005)		R235	—		
	R236	—			R236	1-218-990-11	CONDUCTOR, CHIP(1005)	
	R237	1-216-864-11	METAL CHIP 0 5%	1/16W	R237	1-218-895-11	RES, CHIP 100K 0.50%	1/16W
	R238	—			R238	1-218-973-11	RES, CHIP 47K 5%	1/16W
	R240	1-216-864-11	METAL CHIP 0 5%	1/16W	R240	1-218-883-11	RES, CHIP 33K 0.50%	1/16W

9-973-979-92

Sony Corporation
Personal A&V Products Company

9810584-1
Printed in Japan
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Published by Quality Engineering Dept.
(Osaki East)

8mm VIDEO MECHANICAL ADJUSTMENT MANUAL VIII

Difference Manual

T2 MECHANISM

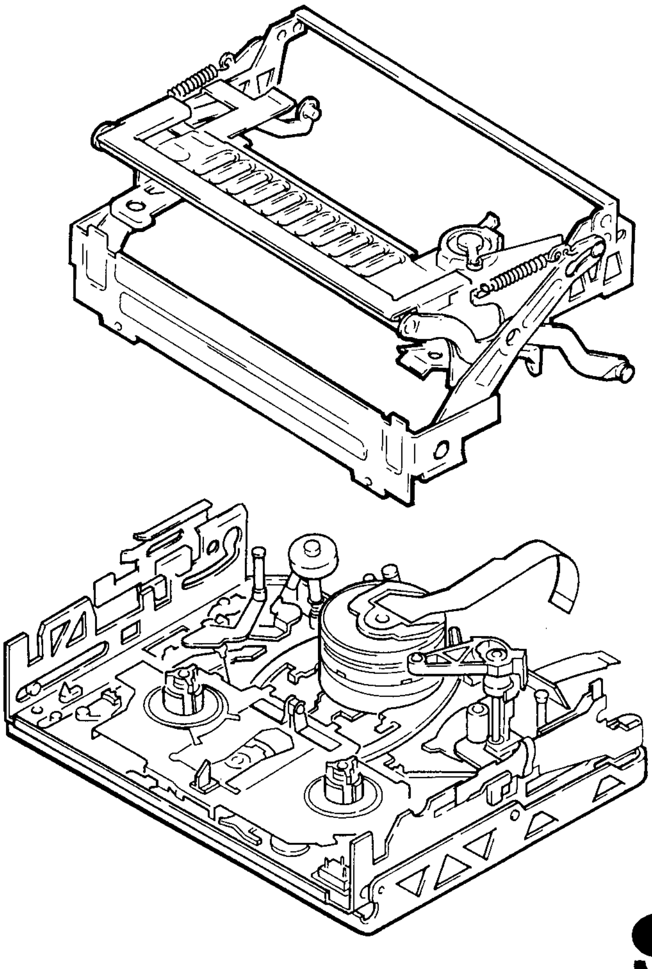
Video 8

Only differences compared with the “8 mm VIDEO MECHANICAL ADJUSTMENT MANUAL VI (TK MECHANISM)” are mentioned in this service manual. Use with service manual (original: 9-973-446-11, supplement-1: 9-973-446-81, supplement-2: 9-973-446-82) for repair.

MAIN DIFFERENCES
1. **Chassis's form**
2. **Attachment position of loading motor**

Note: The page No. ( ) stated on top of each title shows you the page No. in the previous issued original service manual, supplement-1 or supplement-2 of “8 mm Video MECHANICAL ADJUSTMENT MANUAL VI ”

Example: (Supplement-2: Page 2)
1-2. HP ARM BLOCK ASSEMBLY



8 VIDEO MECHA DECK

SONY®

MICROFILM

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(Original: Page 3)

1. PREPARATION FOR MECHANICAL CHECK, ADJUSTMENT AND MAINTENANCE

For removal of the cabinet and boards, refer to "Disassembly" in each Service Manual.
Mechanical adjustment is done in the USE mode. (To select the USE mode, refer to the section "Handling of Mode Selector II " in supplement-1 of the separate volume.

1-1. CASSETTE COMPARTMENT ASSEMBLY (See Fig. 1)

1. Removing

1) Set the USE mode.
2) Remove the two screws ①.
3) Rotate the cassette compartment assembly ② in the direction of arrow 🅐. next, slide it in the direction of arrow 🅑 to be at the positions of round holes ⓒ and ⓓ, and remove the C rollers ③ and ④ inwords (direction of arrow 🅓) with bending.

2. Attaching

1) Set the USE mode.
2) Insert the C rollers ③ and ④ into the round holes ⓒ and ⓓ and slide the cassette compartment assembly in the opposite direction of arrow 🅑.
   Note: Make sure the C rollers ③ and ④ have been inserted properly into the round holes ⓒ and ⓓ.
3) Rotate the cassette compartment assembly ② in the opposite direction of arrow 🅐.
   Note: Make sure the C lock plate ⑤ is inside the LS chassis.
4) Attach the two screws ①.

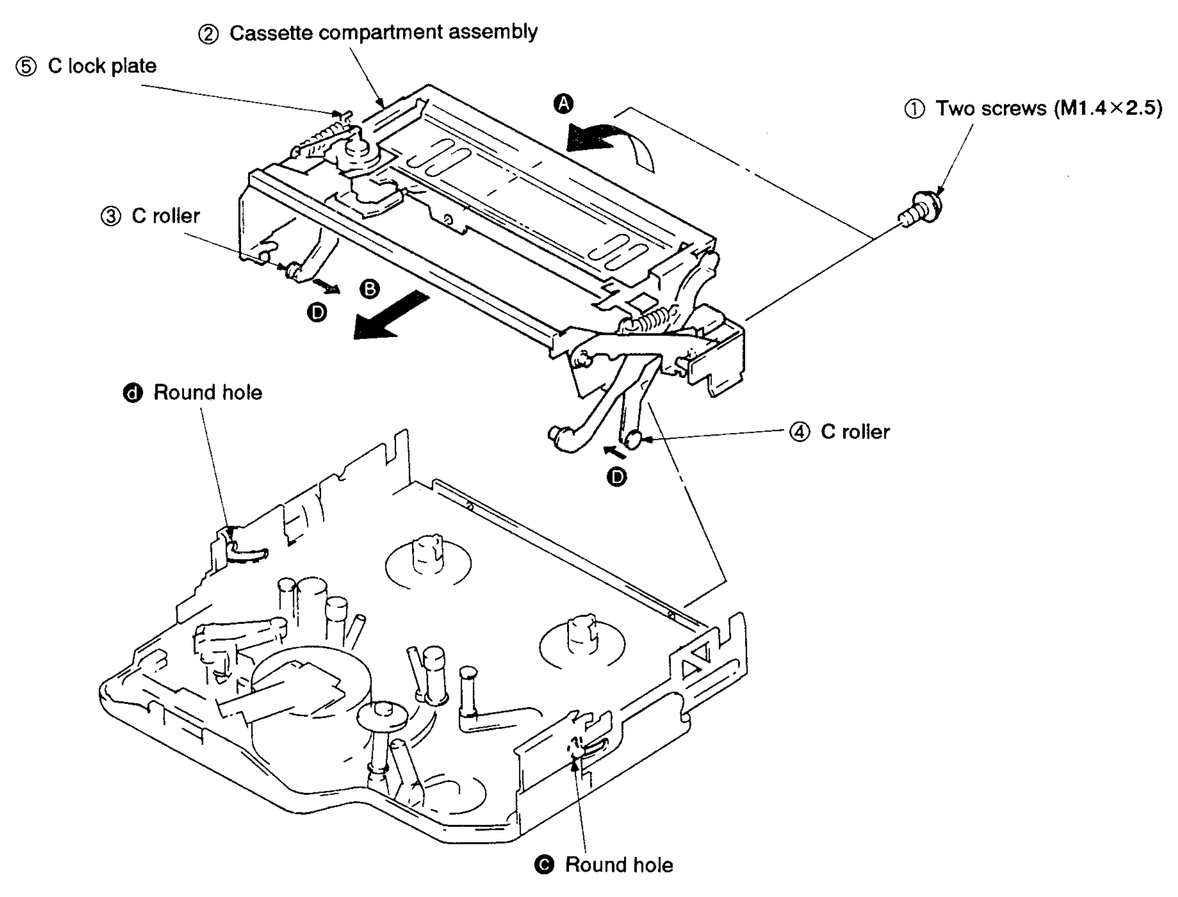


Fig. 1.

(Original: Page 4
Supplement-2: Page 2)

1-2. HP ARM BLOCK ASSEMBLY (See Fig. 2)

1. Removing

1) Set the unit to the $\boxed{\text{EJECT}}$ position with the cassette compartment assembly removed or attached.
2) Move the HP arm block assembly ② in the direction of arrow 🅐 with your hand. (See Fig. 2-B.)

Note: As the HC roller of the HP arm block assembly ② will not touch the drum in the $\boxed{\text{EJECT}}$ position, move it away from the drum with your hand. (See Fig. 2-A.)

3) Remove the screw ①, and in the state of 2), remove the HP arm block assembly ② in the direction of arrow 🅑. (See Fig. 2-B)

2) Attaching

1) Set the unit to the $\boxed{\text{EJECT}}$ position.
2) Hold the HP plate with your fingers and press the HP lever at the part indicated in Fig. 2-B.

Note: Confirm that the pin of HP lever is in the cam groove of HC arm. (See Fig. 2-A)

3) In the state of 2), attach the HP arm block assembly ② to the capstan motor.

Note: When attaching, make sure that the HC roller does not touch the drum. (See Fig. 2-C)

4) Adjust the hole of the HP plate to the positioning dowel, tighten the screw ①, and attach the HP arm block assembly ②.

Note: When attaching, be careful not to touch the tension spring with your hand and change its shape.

5) After attaching, check that it works properly. First, check that the HP arm block assembly ② is attached at the position shown in Fig. 2-A. Next, check that the HC roller moves away from the drum when the HP lever is rotated in the direction of arrow 🅐 shown in Fig. 2-B.

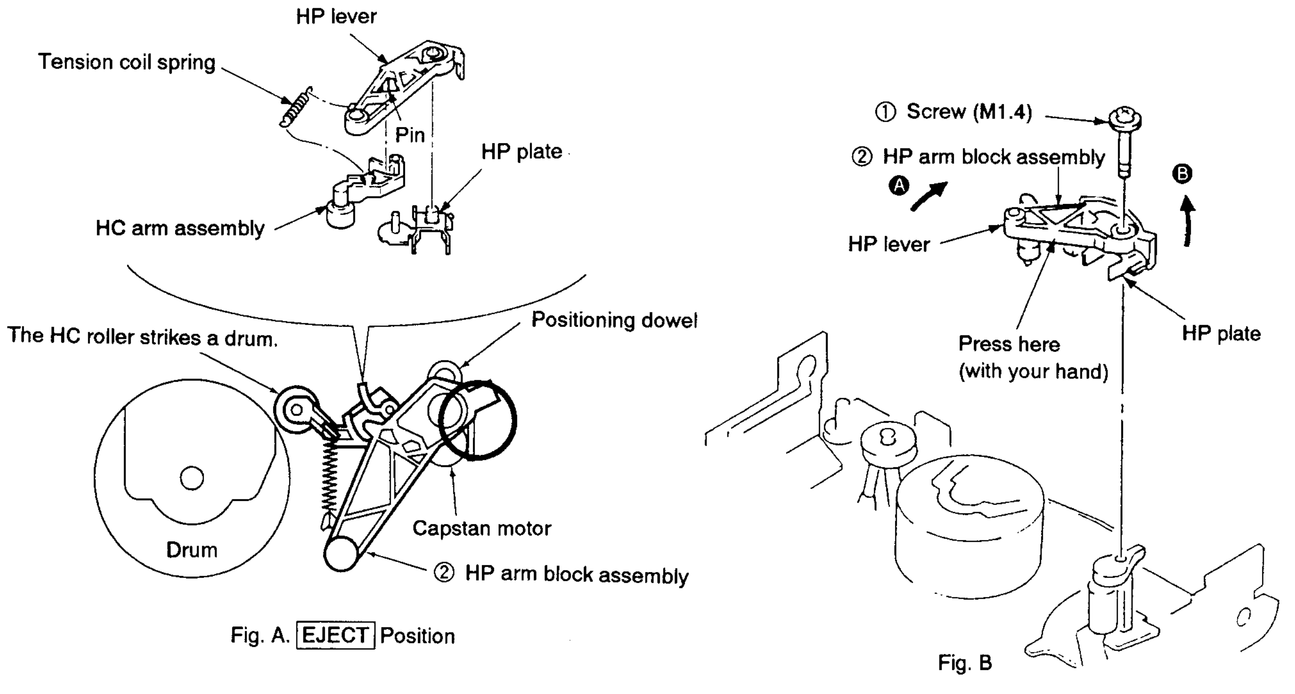

HP lever
Tension coil spring
Pin
HP plate
HC arm assembly
The HC roller strikes a drum.
Positioning dowel
Drum
Capstan motor
② HP arm block assembly
① Screw (M1.4)
② HP arm block assembly
🅐
🅑
HP lever
Press here
(with your hand)
HP plate

Fig. A. $\boxed{\text{EJECT}}$ Position

Fig. B

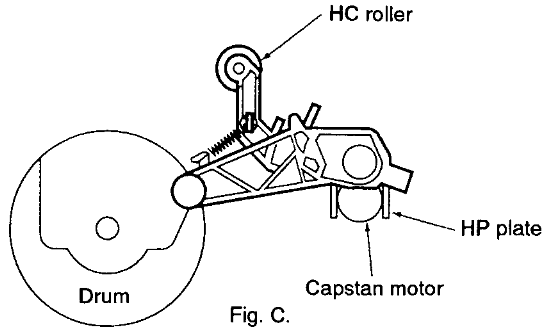

HC roller
HP plate
Capstan motor
Drum

Fig. C.

Fig. 2.

(Original: Page 6)

2. PERIODIC CHECK AND MAINTENANCE

- Carry out the following maintenance and periodic checks not only to fully display the functions and performance of the set, but also for the equipment and tape. After repairing, service the set as follows, regardless of the length of use.

2-1. CLEANING OF ROTARY DRUM ASSEMBLY

1) Press a chamois cloth (Ref No. J-2) moistened with cleaning fluid (Ref No. J-1) against the rotary drum assembly gently, and clean it while rotating the upper rotary drum assembly slowly with your finger in the counterclockwise direction.

Note: Do not rotate the motor on power or rotate the upper rotary drum assembly in the clockwise direction with your finger. The head tip will also be damaged if the chamois cloth is moved perpendicularly against it. Therefore, be sure to follow the above instructions when cleaning the rotary drum assembly.

2-2. CLEANING OF TAPE PATH SYSTEM (See Fig. 4.)

1) In the EJECT mode, clean the tape path systems (TG-1, 2, 3, 4, 5, 6, 7, 8, 9, pinch roller, capstan shaft) and the lower drum using a superfine applicator (Ref No. J-3) moistened with cleaning fluid.

Note: Make sure that no oil or grease of the link mechanisms sticks to the superfine applicator (Ref No. J-3.)

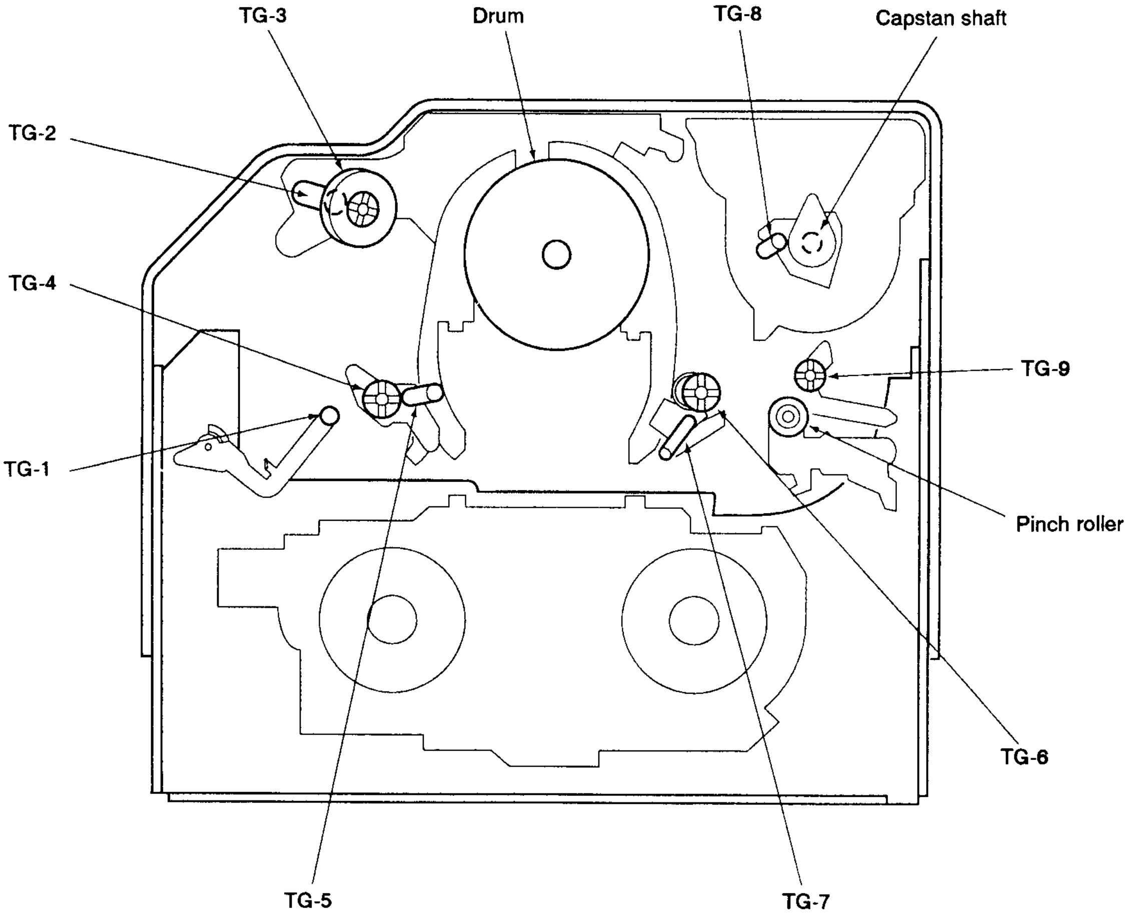


Fig. 4.

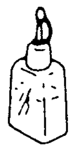
(Original: Page 8)

2-4. SERVICE JIGS LIST

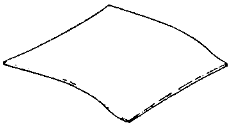
Ref. No.	Name	Part No.	Fixture No.	Usage, Others
J-1	Cleaning fluid	Y-2031-001-0	——	
J-2	Chamois cloth	2-034-697-00	——	
J-3	Super fine applicator (Made by NIPPON APPLICATOR (P752D))		——	
J-4	Head degausser	Any sold	——	
J-5	Small mirror for adjustment Spare mirror	J-6080-029-A J-6080-030-A	SL-5052	Tape path
J-6	Alignment tape (WR5-1N)	8-967-995-01		Tape path
J-7	FWD and RVS take-up torque cassette	J-6080-824-A	GD-2086	
J-8	Drum screwdriver (Hexagonal wrench screwdriver)	7-700-766-01		
J-9	Screwdriver for tape path	J-6082-026-A		For adjusting tape guide
J-10	Adjusting remote commander (RM-95-remodeled partly)[Note 1]	J-6082-053-A		
J-11	Mode selector II	J-6082-282-A		For all models
J-12	Mode selector change connector board (F, TK, T2)	J-6082-278-B		
J-13	Back yoke jig	J-6082-227-A		For the upper rotor assembly

Other equipment used
- Oscilloscope
- Analog tester (20 kΩ)

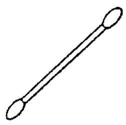
J-1



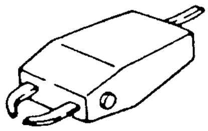
J-2



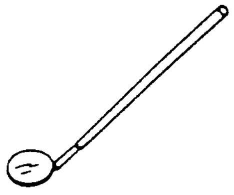
J-3



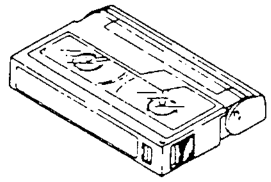
J-4



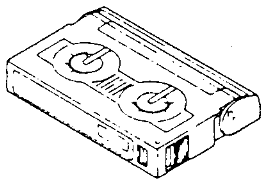
J-5



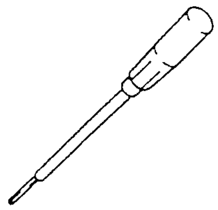
J-6



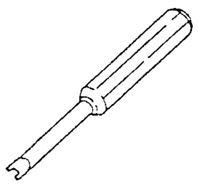
J-7



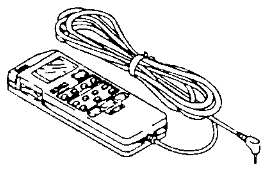
J-8



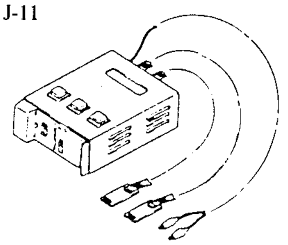
J-9



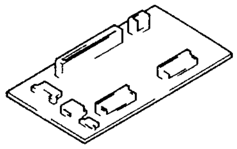
J-10



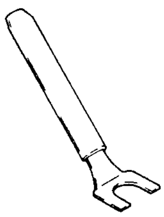
J-11



J-12



J-13



Note 1: If the micro processor IC in the adjusting remote commander is not the new micro processor (UPD7503G-C56-12), the pages cannot be switched. In this case, replace with the new micro processor (8-759-148-35).

(Supplement-1: Page 2)

2-5. USE OF MODE SELECTOR Ⅱ

2-5-1. Outline

This unit is a mechanism drive tool which supplements the maintenance of each mechanism deck. Its functions are described below.

1. **Manual test**

   A mode which drives the motor only while the switch is ON. It enables the operator to control the motor as desired.

2. **Step test**

   A mode which drives the motor until the current condition detected by the sensor changes to another condition. It enables the movements made by the motor in each operation to be controlled while being checked.

3. **Auto test**

   A mode that checks if the mechanism operates normally according to the condition shift table recorded in the unit for each mechanism deck. All the conditions of the decks are checked through a series of operations.
   An error message is displayed if incorrect shifts and conditions are detected and operations are stopped.

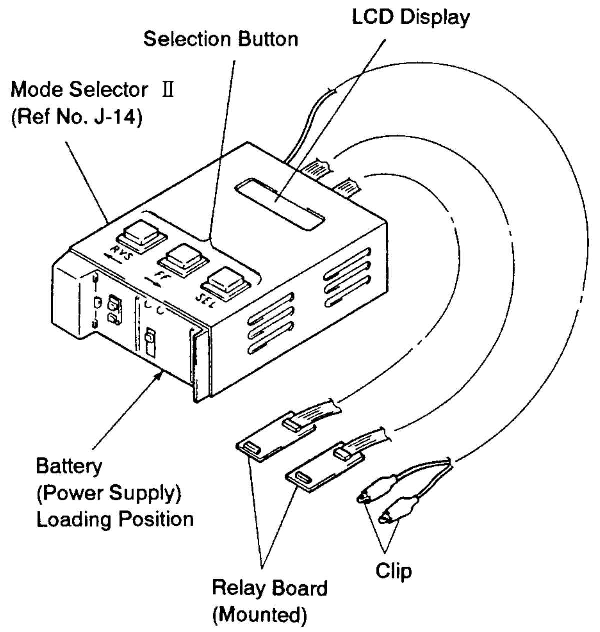

LCD Display
Selection Button
Mode Selector Ⅱ
(Ref No. J-14)
RVS
FF
SEL
Battery
(Power Supply)
Loading Position
Relay Board
(Mounted)
Clip

Fig. 1.

Note: "T2" (name of mechanism) is not displayed on the MECHA SELECT screen, however the transition order of mode switch codes and mechanism condition (position) is the same as that of TK mechanism, select the "TK" for mechanism selection.

Mode Selector Ⅱ (J-6082-282-A) Connection

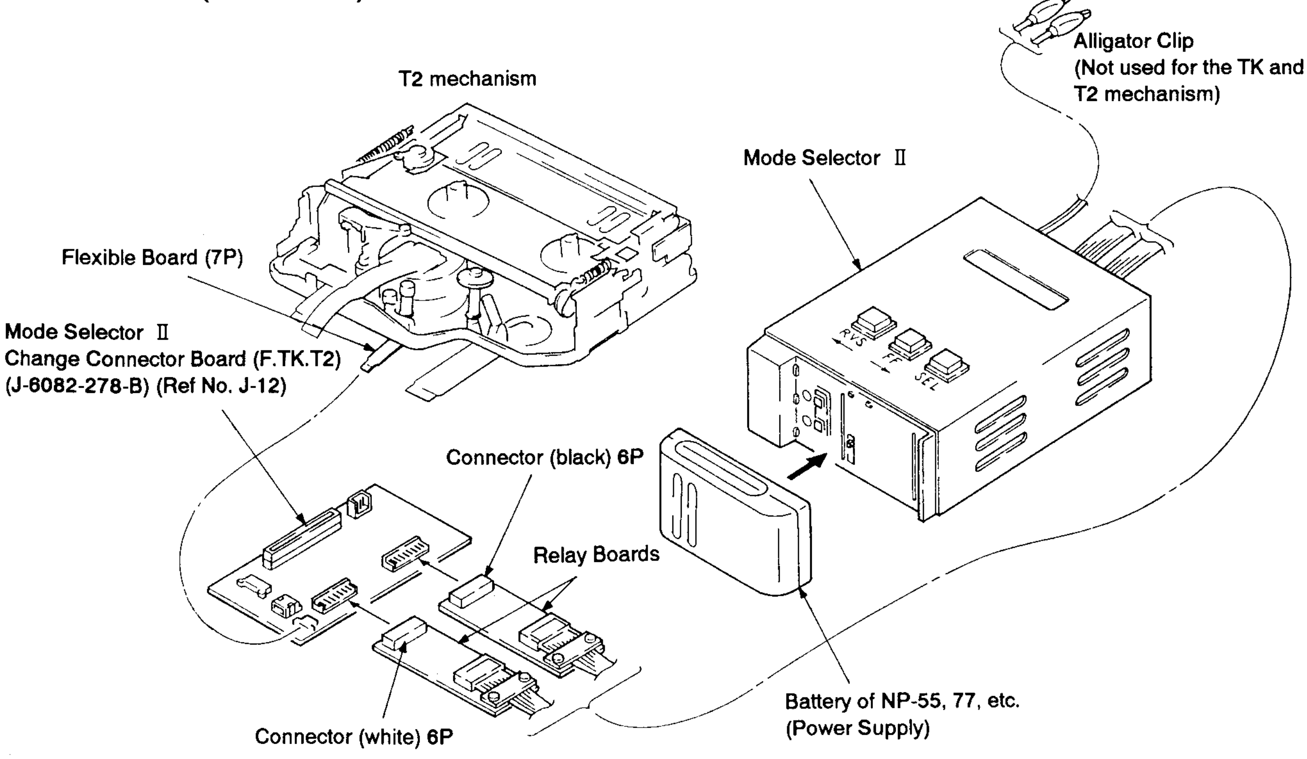

Alligator Clip
(Not used for the TK and
T2 mechanism)
T2 mechanism
Mode Selector Ⅱ
Flexible Board (7P)
Mode Selector Ⅱ
Change Connector Board (F.TK.T2)
(J-6082-278-B) (Ref No. J-12)
Connector (black) 6P
Relay Boards
RVS
FF
SEL
Battery of NP-55, 77, etc.
(Power Supply)
Connector (white) 6P

Fig. 2.

(Original: Page 14
Supplement-2: Page 6)

3-6. LS CHASSIS ASSEMBLY

1. Removing (See Fig. 11.)

1) Set the USE mode.
2) Refer to 1-1 and remove the cassette compartment assembly.
3) Refer to 3-1 and remove the retainer assembly.
4) Remove the washer ① and remove the gooseneck gear assembly ②.
5) Set the LOAD mode.

Note: Remove the washer ③ when it is easily removed. (Fig. D)

6) Remove the FP-318 flexible board ④. (See Fig. C)
7) Rotate the three LS retainers in the direction of arrow 🅒 shown in Fig. B.
8) Remove the LS chassis assembly ⑤ in the direction of arrow 🅐.

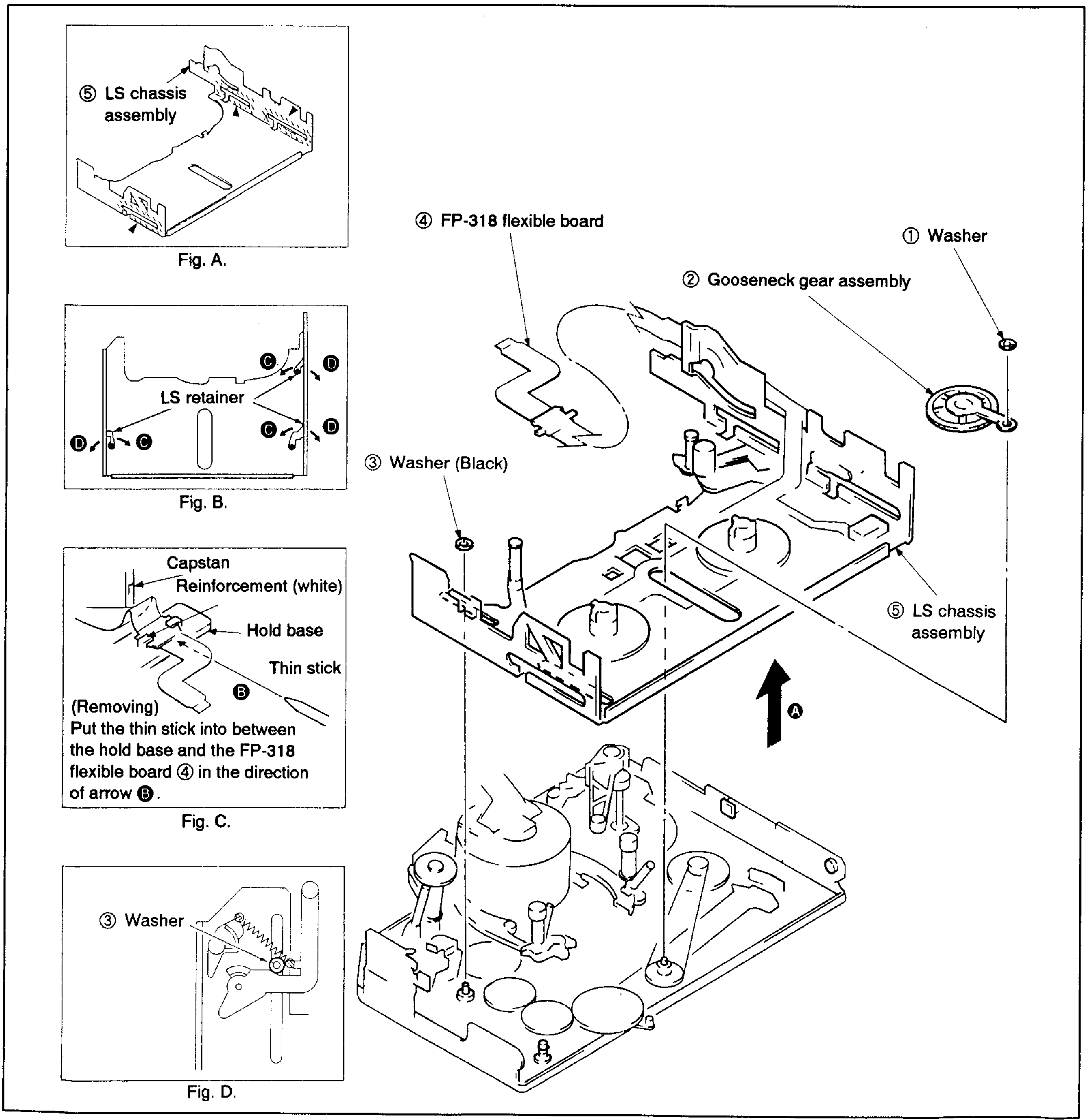

⑤ LS chassis assembly
LS retainer
🅒
🅓
Capstan
Reinforcement (white)
Hold base
Thin stick
🅑
③ Washer
④ FP-318 flexible board
① Washer
② Gooseneck gear assembly
③ Washer (Black)
⑤ LS chassis assembly
🅐

Fig. A.

Fig. B.

(Removing)
Put the thin stick into between the hold base and the FP-318 flexible board ④ in the direction of arrow 🅑.

Fig. C.

Fig. D.

Fig. 11.

(Original: Page 15
Supplement-2: Page 7)

2. Attaching (See Fig. 11. to 18.)

1) As shown in Fig. 11-A, apply grease (SG-941) to the punched side of the sheet metal of LS chassis assembly ⑤ indicated by ▶.
2) Set the LOAD mode and start docking.
   When docking the mechanism chassis and LS chassis assembly ⑤, always set the following.
3) Adjust the holes for the S arm assembly and T arm assembly to the holes for the mechanism chassis. (See Fig. 12.).

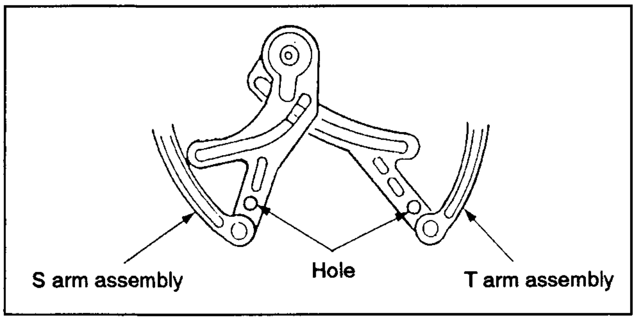

S arm assembly
Hole
T arm assembly

Fig. 12.

4) Move the TG-1 arm assembly in the arrow direction and insert the pin into the groove of the mechanism chassis. (See Fig. 13.).

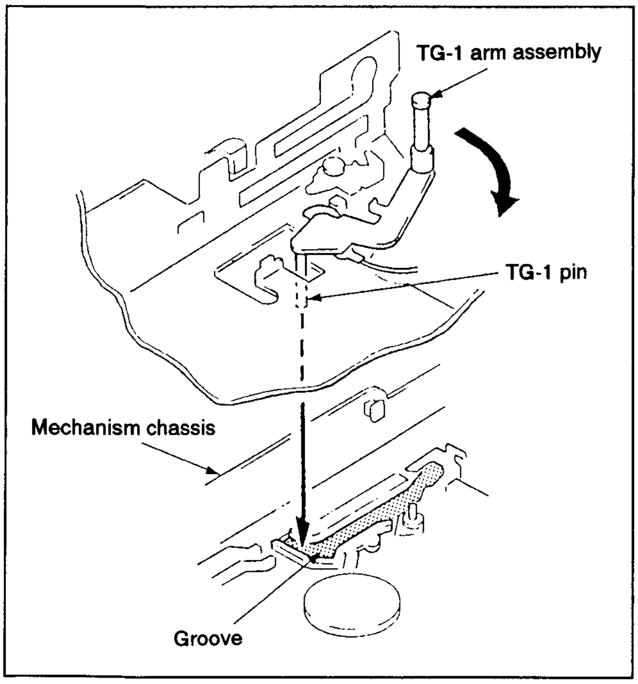

TG-1 arm assembly
TG-1 pin
Mechanism chassis
Groove

Fig. 13.

5) Attach the T soft arm (See Fig. 14.).

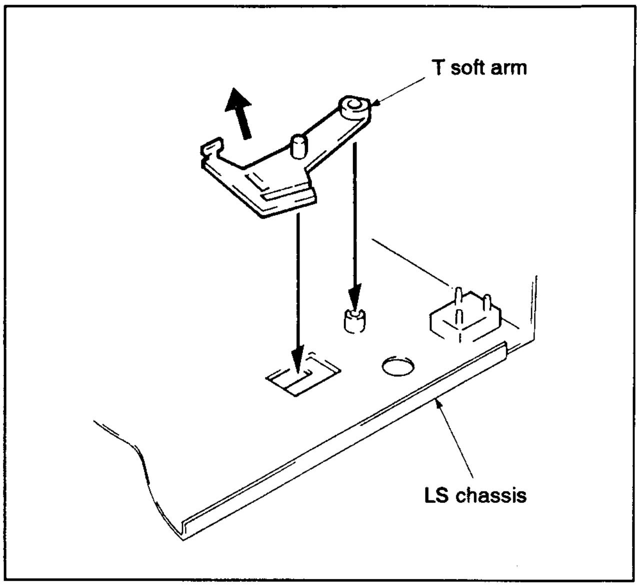

T soft arm
LS chassis

Fig. 14.

6) Move the TG-9 arm assembly in the direction of the arrow and insert the pin into the groove of the mechanism chassis. (See Fig. 15.).

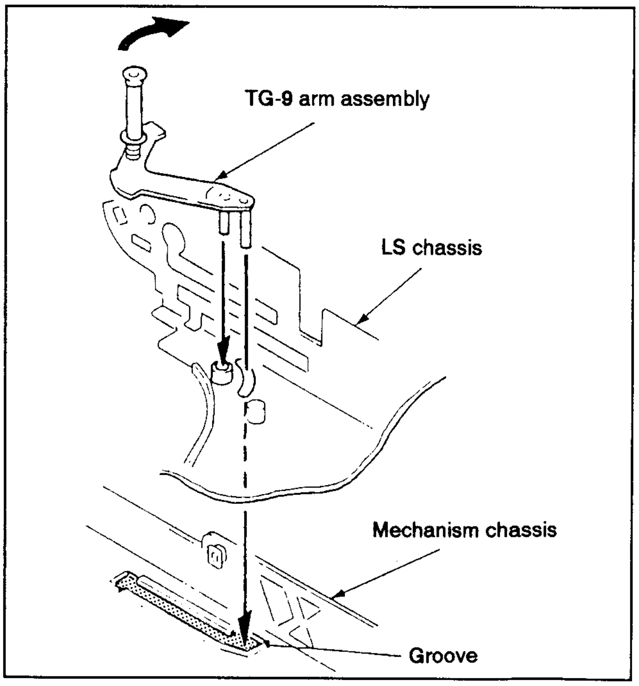

TG-9 arm assembly
LS chassis
Mechanism chassis
Groove

Fig. 15.

(Original: Page 16
Supplement-2: Page 8)

7) Move the pinch arm assembly in the direction of the arrow and insert the pin into the right side of the cam of the mechanism chassis. (See Fig. 16.).

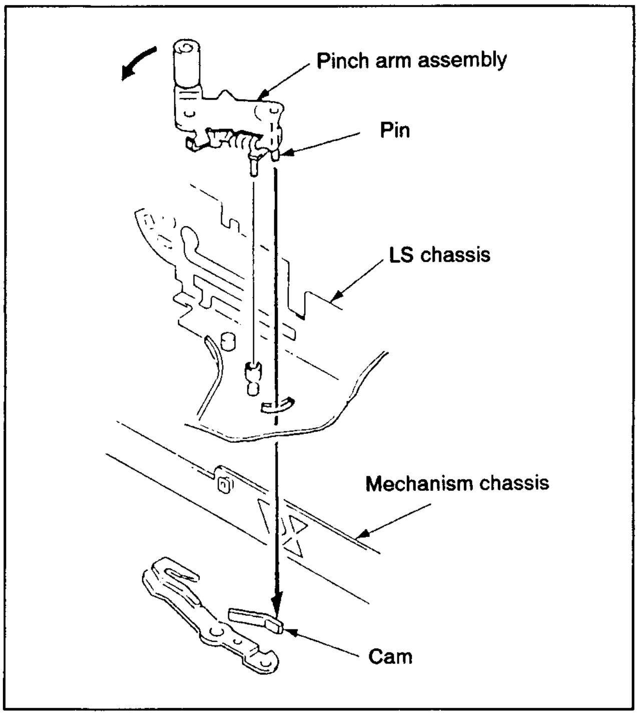

Pinch arm assembly
Pin
LS chassis
Mechanism chassis
Cam

Fig. 16.

8) While carrying out the above, adjust the guide shaft of the mechanism chassis to the notch of the LS chassis and insert it. (See Fig. 17.).

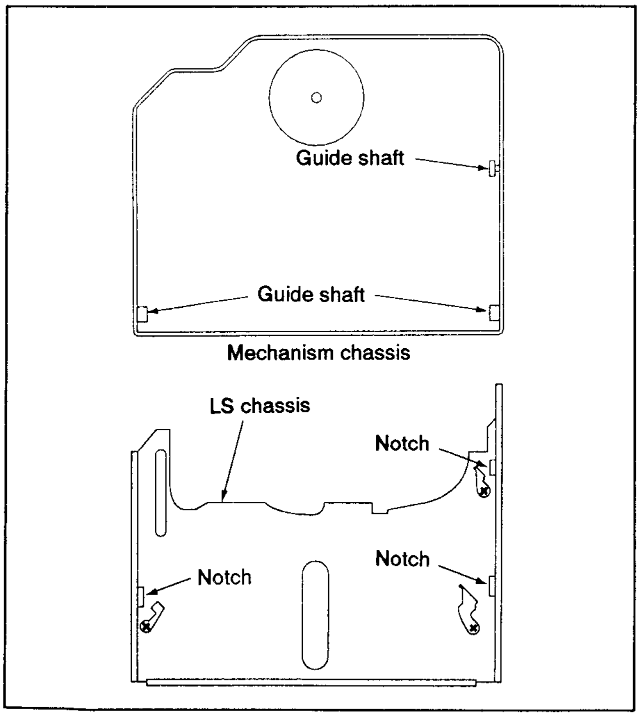

Guide shaft
Guide shaft
Guide shaft
Mechanism chassis
LS chassis
Notch
Notch
Notch

Fig. 17.

9) After the three of LS retainer is rotated in the direction of arrow 🅓 as shown in Fig. 11-B. move the LS chassis and attach the washer ③. (See Fig. 11: B, D)

10) Hook the notch on the FP-318 flexible board to claws on the hold base, and adjust them with pulling in the direction of arrow. (See Fig. 18)

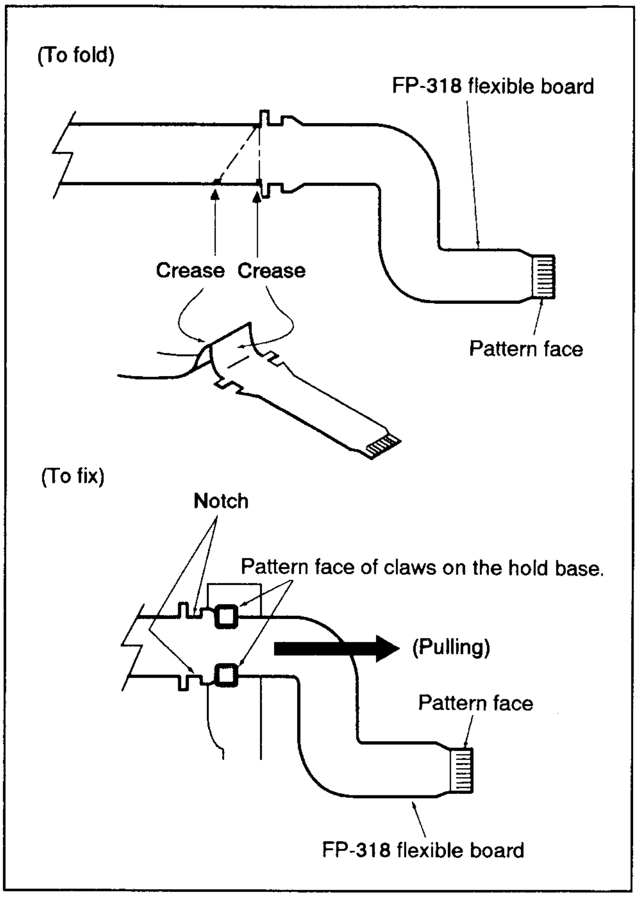

(To fold)
FP-318 flexible board
Crease
Crease
Pattern face
(To fix)
Notch
Pattern face of claws on the hold base.
(Pulling)
Pattern face
FP-318 flexible board

Fig. 18.

11) Set the USE mode.

12) Attach the gooseneck gear assembly ② and tighten with the washer ①.

13) Refer to 3-1 and attach the retainer assembly.

14) Refer to 1-1 and attach the cassette compartment assembly.

Note: Using the mode selector Ⅱ (Ref No. J-11), check that loading and unloading are carried out smoothly.

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Supplement-2: Page 9)

3-14. LOADING MOTOR ASSEMBLY (See Fig. 32.)

1. Removing

1) Refer to 1-1 and remove the cassette compartment assembly.
2) Unskate the LS chassis slightly.
3) Remove the two screws ①.
4) Remove the loading motor block assembly ②.
5) Remove the loading motor assembly ④ from the motor holder ③.
6) Remove the two positions of soldering.

2. Attaching

1) Solder the flexible board to the loading motor assembly ④. (two positions)
2) Attach the loading motor assembly ④ to the motor holder ③. (Fig. A)
3) Attach the loading motor block assembly ②. (Two positions to be fixed)
4) Fix the two screws ①.
5) Refer to 1-1 and attach the cassette compartment assembly.

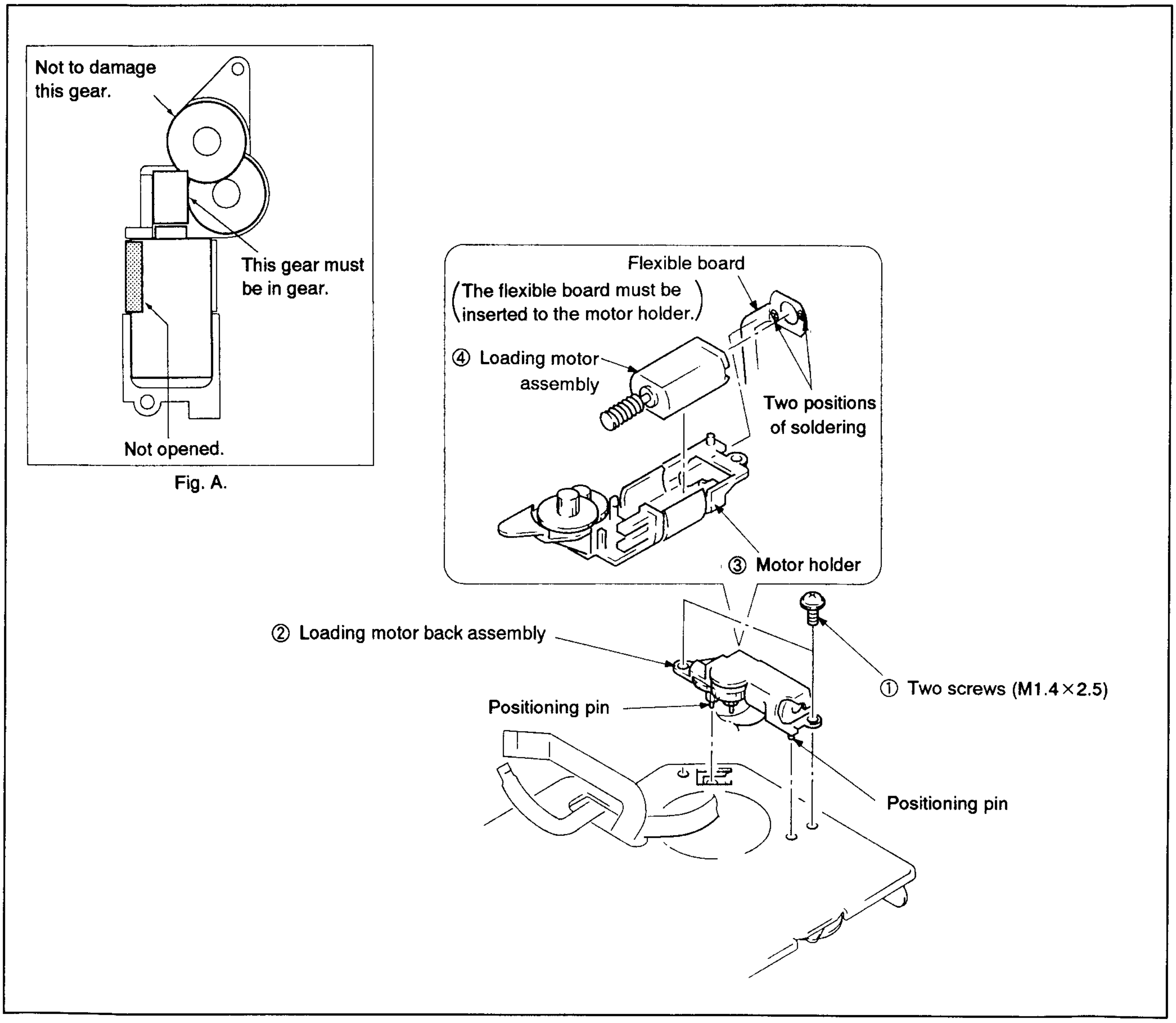

Not to damage this gear.
This gear must be in gear.
Not opened.
Fig. A.
Flexible board
(The flexible board must be inserted to the motor holder.)
④ Loading motor assembly
Two positions of soldering
③ Motor holder
② Loading motor back assembly
Positioning pin
① Two screws (M1.4×2.5)
Positioning pin

Fig. 32.

(Original: Page 24
Supplement-2: Page 10)

3-15. CAPSTAN MOTOR ASSEMBLY (See Fig. 33.)

1. Removing

1) Refer to 1-1 and remove the cassette compartment assembly. (It need not be removed when working in the EJECT mode because it will be lifted up in this mode.)
2) Refer to 1-2. and remove the HP arm block assembly.
3) Refer to 3-6. (Fig. 11-C) and remove he FP-318 flexible board.
4) Set the LS chassis from USE to EJECT.
5) Remove the two screws ④ and the hexagonal nut ⑤.

Note: Before removing the hexagonal nut ⑤, mark it and the mechanism chassis as shown in Fig. B. (To attach the capstan motor assembly ① at approximately the same height as before it was removed, when attaching the hexagonal nut ⑤.)

6) Lift up the capstan motor assembly ① vertically and remove it.

2. Attaching

1) Adjust so that the gear of the conversion gear assembly ⑥ and the gear of the capstan motor assembly ① engage. Then insert CM guide shaft A ⑦ into the hole of the capstan motor assembly ①.
   Be careful not to scratch the gears. (Fig. A.)
2) Tighten the two screws ④ with a 0.0686 N • m (0.7 kg • cm) tightening torque.
3) Screw the hexagonal nut ⑤ onto CM guide shaft A ⑦ until the third ring of the shaft is above it, and adjust the mark on the nut to that on the mechanism chassis.
4) After attaching the two screws ④ and hexagonal nut ⑤, check that the capstan motor assembly ① is attached parallel to the bottom of the mechanism chassis.

Note: Attach the capstan motor assembly ① to the mechanism chassis horizontally during the operation 1), 2) and 3).

5) Refer to 3-6. (Fig. 18) and attach the FP-318 flexible board.
6) Refer to 1-2. and attach the HP arm block assembly
7) Refer to 1-1. and attach the cassette compartment assembly.

Note: After attaching, attach each board, load the tape, and carry out the CUE and REV checks. Check that the tape does not become slack while running.

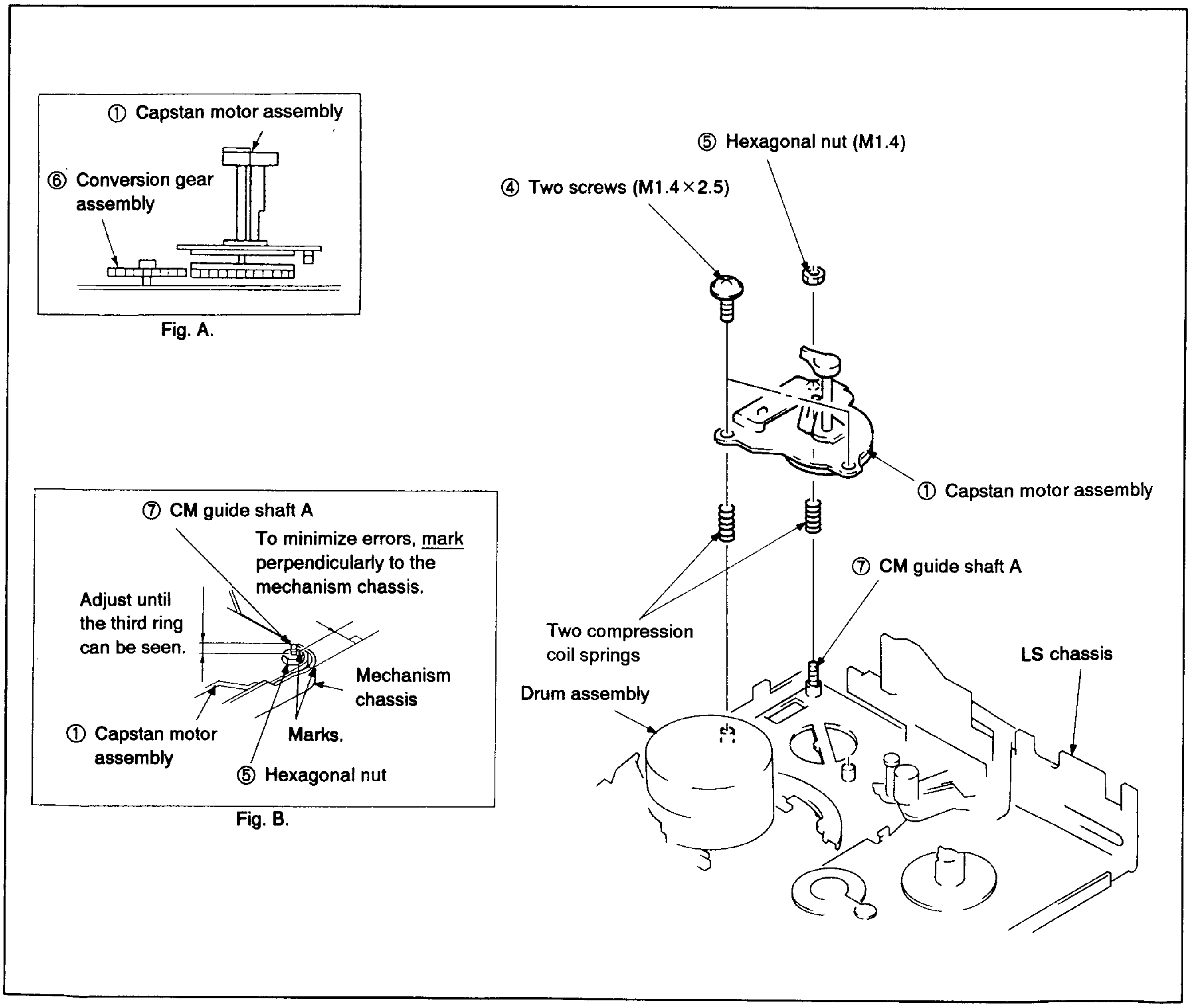

① Capstan motor assembly
⑥ Conversion gear assembly
⑦ CM guide shaft A
To minimize errors, mark perpendicularly to the mechanism chassis.
Adjust until the third ring can be seen.
Mechanism chassis
① Capstan motor assembly
Marks.
⑤ Hexagonal nut
⑤ Hexagonal nut (M1.4)
④ Two screws (M1.4×2.5)
① Capstan motor assembly
⑦ CM guide shaft A
Two compression coil springs
Drum assembly
LS chassis

Fig. A.

Fig. B.

Fig. 33.

(Original: Page 26)

3-17. DRUM ASSEMBLY (See Fig. 35.)

1. Removing

1) Unload until the USE mode is set.
2) Refer to 1-2. and remove the HP arm block assembly.
3) Remove the motor flexible board ① from the PC board.
4) Remove one fitting screw assembly ② from the back of the mechanism chassis.
5) Pull out the head flexible board ③ from the hole of the mechanism chassis and drum base assembly carefully to avoid scratching it. Then remove the drum assembly ④.

2. Attaching

1) Insert the head flexible board ③ into the hole of the drum base assembly and the mechanism chassis. Then attach the drum assembly ④ to be adjusted such as pin ⓑ to hole ⓐ and pin ⓓ to hole ⓒ each (holes are appeared in Fig. A). (Be sure to insert from hole ⓐ previously.)
2) Tighten the fitting screw assembly ② at 0.0686 N • m (0.7 kg • cm).
3) Attach the motor flexible board ① to the PC board.
4) Refer to 1-2. and attach the HP arm block assembly.

Note: After attaching, carry out "4. TAPE PATH ADJUSTMENT".

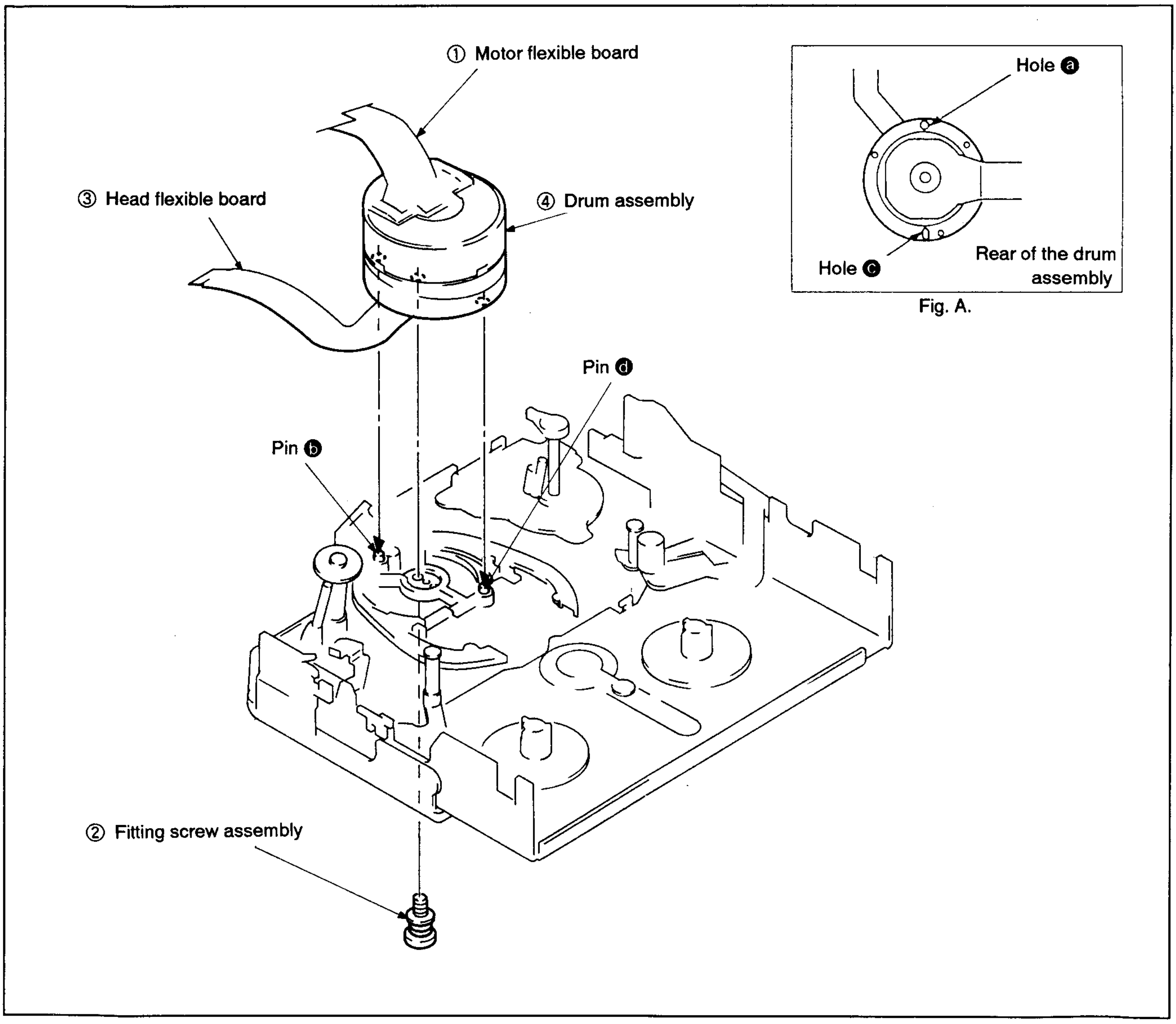

① Motor flexible board
③ Head flexible board
④ Drum assembly
Hole ⓐ
Hole ⓒ
Rear of the drum assembly
Fig. A.
Pin ⓓ
Pin ⓑ
② Fitting screw assembly

Fig. 35.

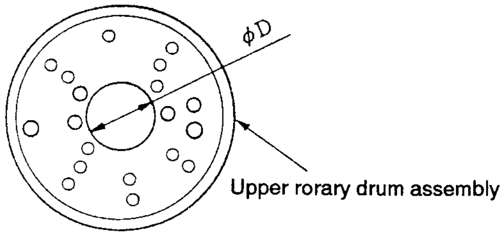
(Original: Page 27
Supplement-1: Page 8)

3-18. REPLACEMENT OF UPPER ROTARY DRUM ASSEMBLY (See Fig. 36. and 37.)

- There are two types of upper rotary drum assembly depending on the color mark. (See Fig. A in Fig. 37.)

EX: CCD-SC55

A-7049-495-A	Upper rotary drum assembly DGR-89-R-(1)
A-7049-498-A	Upper rotary drum assembly DGR-89-R-(2)



Upper drums for manufacturing

RANK	ϕ D	REMARKS	
A	$\phi\ 8^{+0.0015}_{+0.001}$	Green	–01
B	$\phi\ 8^{+0.001}_{+0.0005}$	Green, Red	
C	$\phi\ 8^{+0.0005}_{0}$	Black	
D	$\phi\ 8^{0}_{-0.0005}$	Black, Red	
E	$\phi\ 8^{-0.0005}_{-0.001}$	Red	–11
F	$\phi\ 8^{-0.001}_{-0.0015}$	Red, Red	
G	$\phi\ 8^{-0.0015}_{-0.002}$	Blue	
H	$\phi\ 8^{-0.002}_{-0.0025}$	Blue, Red	

➡

Upper drum for repairing

SUFFIX	ϕ D measurement	REMARKS	DRUM UPPER
–01	$\phi\ 8^{+0.001}_{+0.0005}$	Green, Red	DGR-89-R-(1) (EX: CCD-SC55)
	$\phi\ 8^{+0.0005}_{0}$	Black	
–11	$\phi\ 8^{-0.001}_{-0.0015}$	Red, Red	DGR-89-R-(2) (EX: CCD-SC55)
	$\phi\ 8^{-0.0015}_{-0.002}$	Blue	

1. Removing

1) Refer to 3-17 and remove the drum assembly.
2) Remove the two screws ①. (See Fig. 36.)
3) Insert the back yoke jig (Ref. No. J-13) from the side of flexible board, and remove the motor block assembly (STATOR) ③ with raising upward. (See Fig. 36)

Note 1: The flexible board and guide protector ② are only glued in place and therefore come off easily.

Note 2: The magnet of drum assembly for T2 mechanism has two pieses upward and downward in structure.
Take care to remove it because the motor block assembly (STATOR) ③ cannot be removed easily. (Pull up slowly.)

4) Using a drum screwdriver (Ref No. J-8), remove the two hexagonal socket bolts ④ , and remove the rotary upper drum assembly ⑤. (See Fig. 37.)
6) Using the drum screwdriver (Ref No. J-8), remove the two hexagonal socket bolts ⑥ , and remove the motor block assembly (ROTOR) ⑦. (See Fig. A in Fig. 37.)

2. Attaching

1) Clean the flange surface ⓐ and the surface of the rotary upper drum assembly ⑤ that will come in contact with it, and check that there are no dusts, scratches, etc. (See Fig. 37.)
2) Adjust the direction of the upper drum so that the head contact mold pin ⓑ fits the reference hole of the rotary upper drum assembly ⑤ and press in lightly. (See Fig. 37.)

Note: Look at the space between the upper drum and lower drum and check that it is about 0.05 mm.

3) Using a drum screwdriver (Ref No. J-8), tighten the two hexagonal socket bolts ④ 78.45 mN • m (800 g • cm), and rotate the drum with your fingers and make sure that there are no problems. (See Fig. 37.)
4) Set the two depressed parts on the motor block assembly (ROTOR) ⑦ and the head of hexagon socket bolt to fix the rotary upper drum assembly ⑤.
Then fighten the six hexagon socket bolts with 78.45 mN • m (800 g • cm) using the drum screw driver (Ref No. J-8) (See Fig. A in Fig. 37.)
5) Hold the circumference of the motor block assembly (STATOR) ③, place it on the inner step of the upper drum and insert the other side slowly. (See Fig. A in Fig. 36.)
6) Tighten the two screws ①. 49.03 mN • m (500 g • cm). (See Fig. 36.)
7) Rotate the upper drum with your fingers and check that it rotates smoothly.
8) Refer to 3-17 and attach the drum assembly.

Note: After attaching, carry out "4. TAPE PATH ADJUSTMENT".

(Original: Page 28)

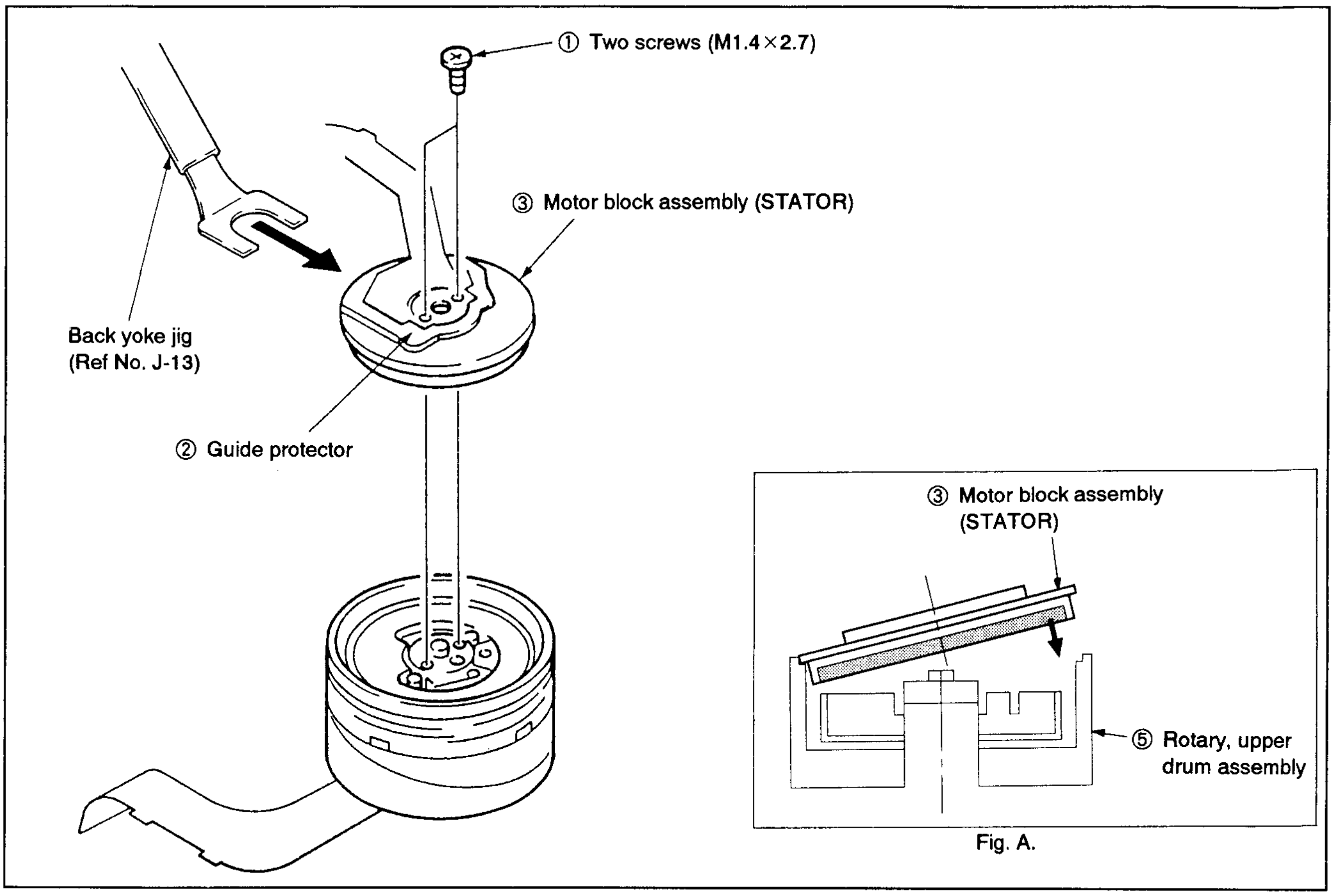

① Two screws (M1.4×2.7)
③ Motor block assembly (STATOR)
Back yoke jig
(Ref No. J-13)
② Guide protector
③ Motor block assembly
(STATOR)
⑤ Rotary, upper
drum assembly

Fig. A.

Fig. 36.

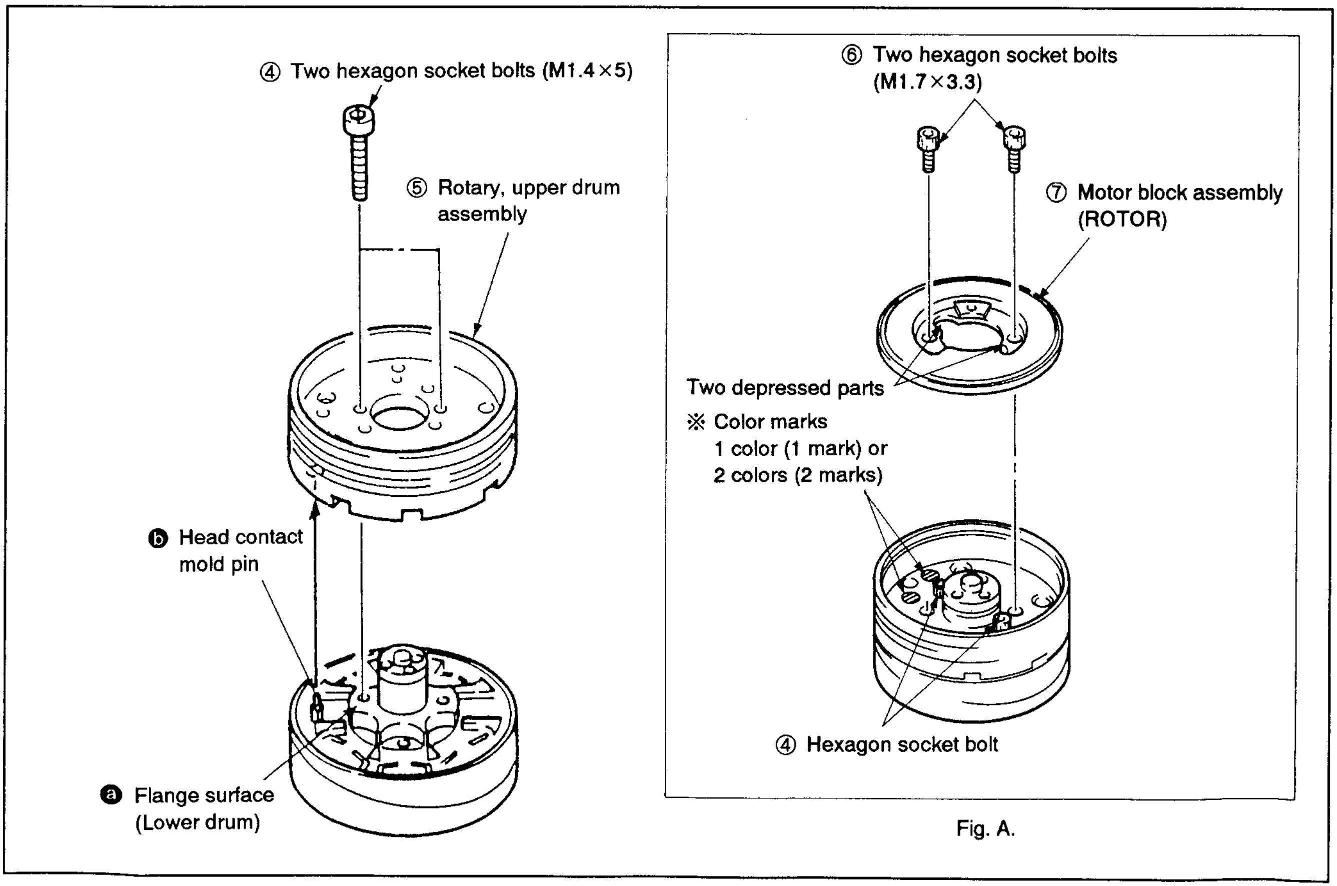

④ Two hexagon socket bolts (M1.4×5)
⑤ Rotary, upper drum
assembly
ⓑ Head contact
mold pin
ⓐ Flange surface
(Lower drum)
⑥ Two hexagon socket bolts
(M1.7×3.3)
⑦ Motor block assembly
(ROTOR)
Two depressed parts
※ Color marks
1 color (1 mark) or
2 colors (2 marks)
④ Hexagon socket bolt

Fig. A.

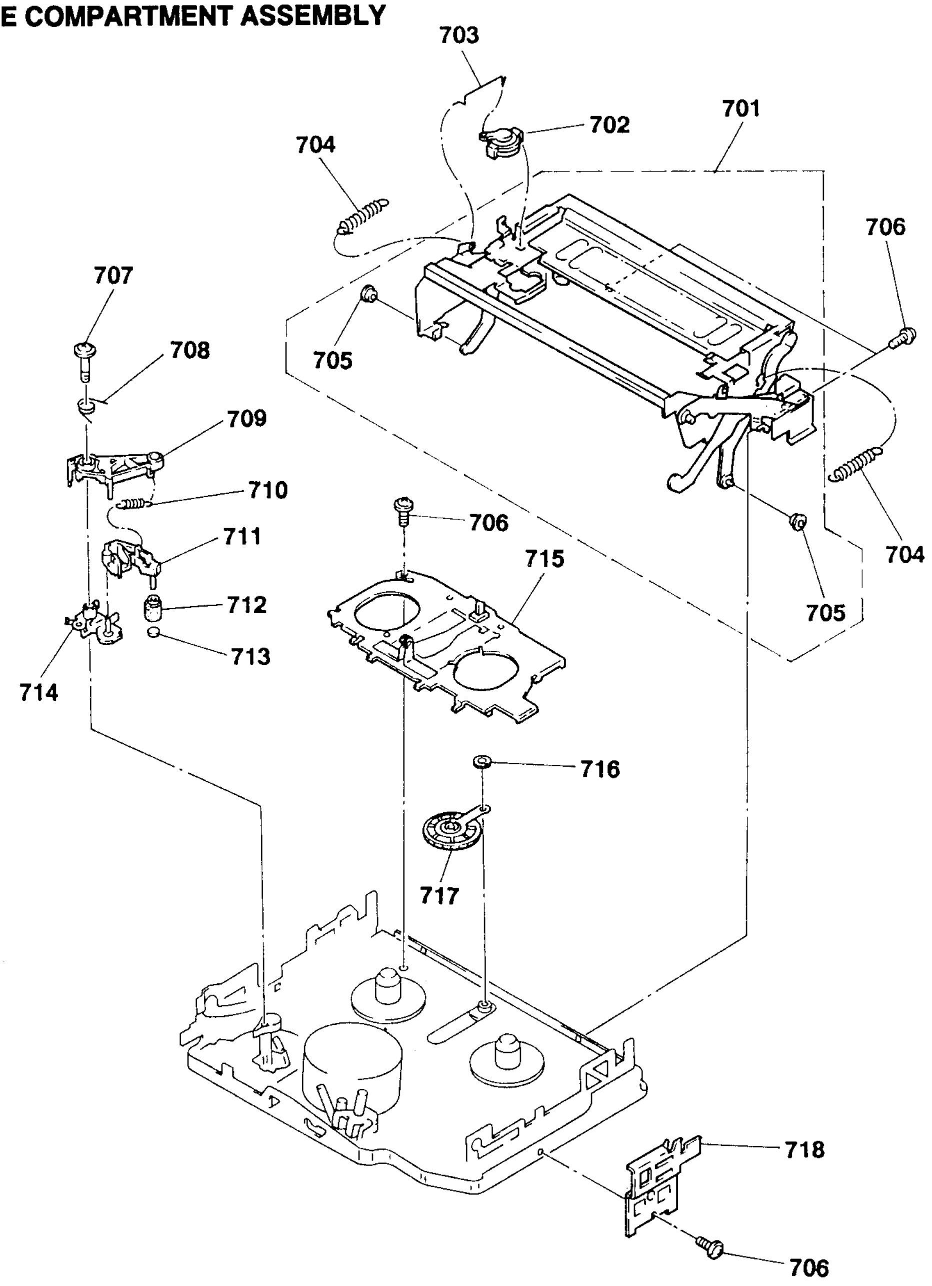
Fig. 37.

5. EXPLODED VIEWS

NOTE:

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.

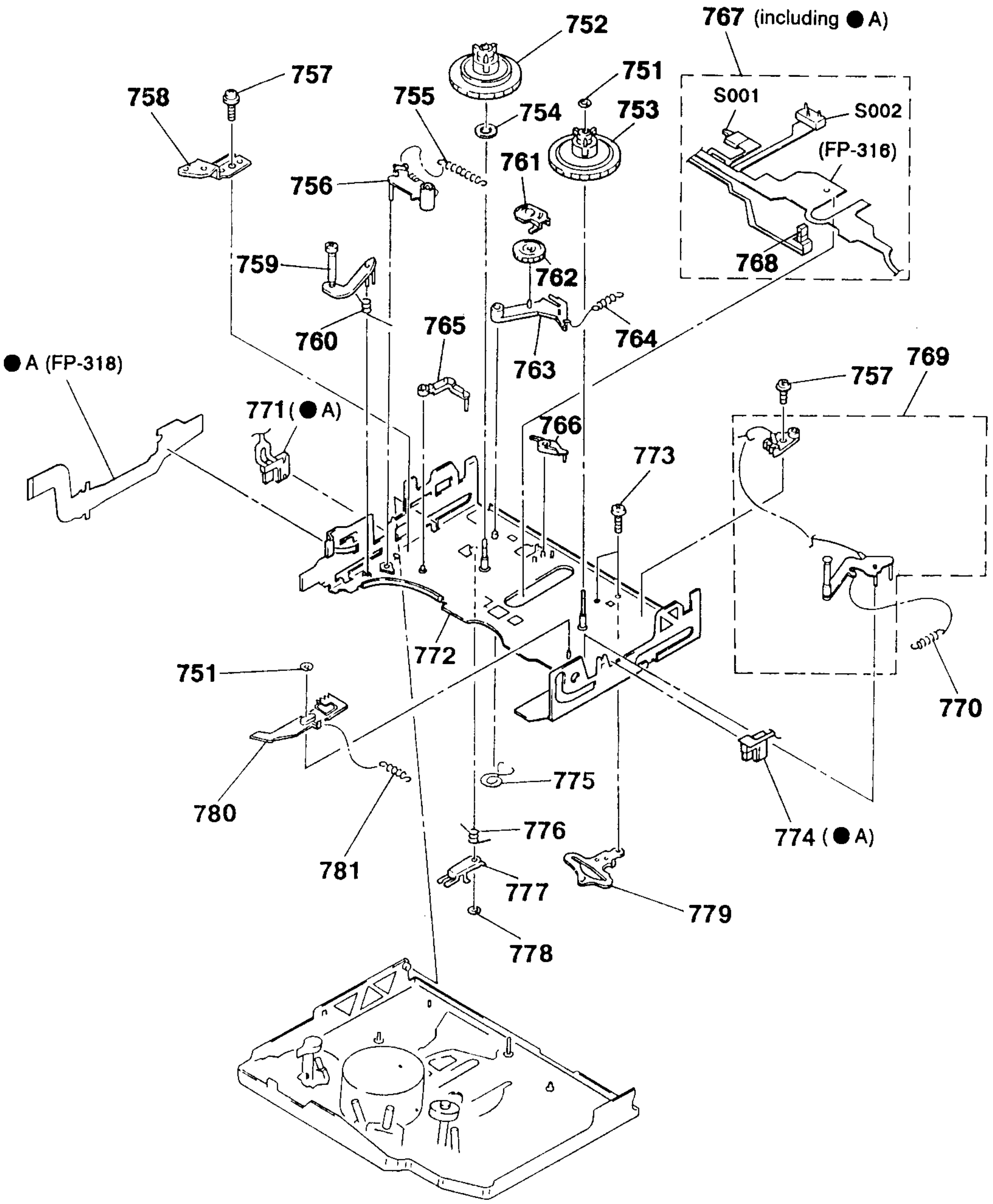
CASSETTE COMPARTMENT ASSEMBLY



Ref. No.	Part No.	Description	Remark
701	X-3946-023-2	COMPARTMENT ASSY, CASSETTE	
702	A-7040-453-A	DAMPER BLOCK ASSY	
703	3-969-333-01	ARM, DAMPER SUB	
704	3-969-332-01	SPRING (C-UP), TENSION COIL	
705	3-969-331-01	ROLLER, C	
706	3-947-503-01	SCREW (M1.4X2.5)	
707	3-954-941-01	SCREW (M 1.4)	
708	3-954-939-01	SPRING, TORSION	
709	3-954-910-01	LEVER, HP	
710	3-969-337-01	SPRING (HC), TENSION COIL	

Ref. No.	Part No.	Description	Remark
711	X-3946-024-1	ARM ASSY, HC	
712	X-3944-503-2	ROLLER ASSY, HC	
713	3-315-414-31	WASHER	
714	3-955-824-01	PLATE, HP	
715	X-3944-226-1	RETAINER ASSY, GOOSENECK	
716	3-331-007-21	WASHER	
717	X-3946-022-1	GEAR ASSY, GOOSENECK	
* 718	3-954-745-01	RETAINER, CASSETTE COMPARTMENT	

LS CHASSIS ASSEMBLY


752
767 (including ● A)
757
751
758
755
754
753
S001
S002
(FP-316)
761
756
759
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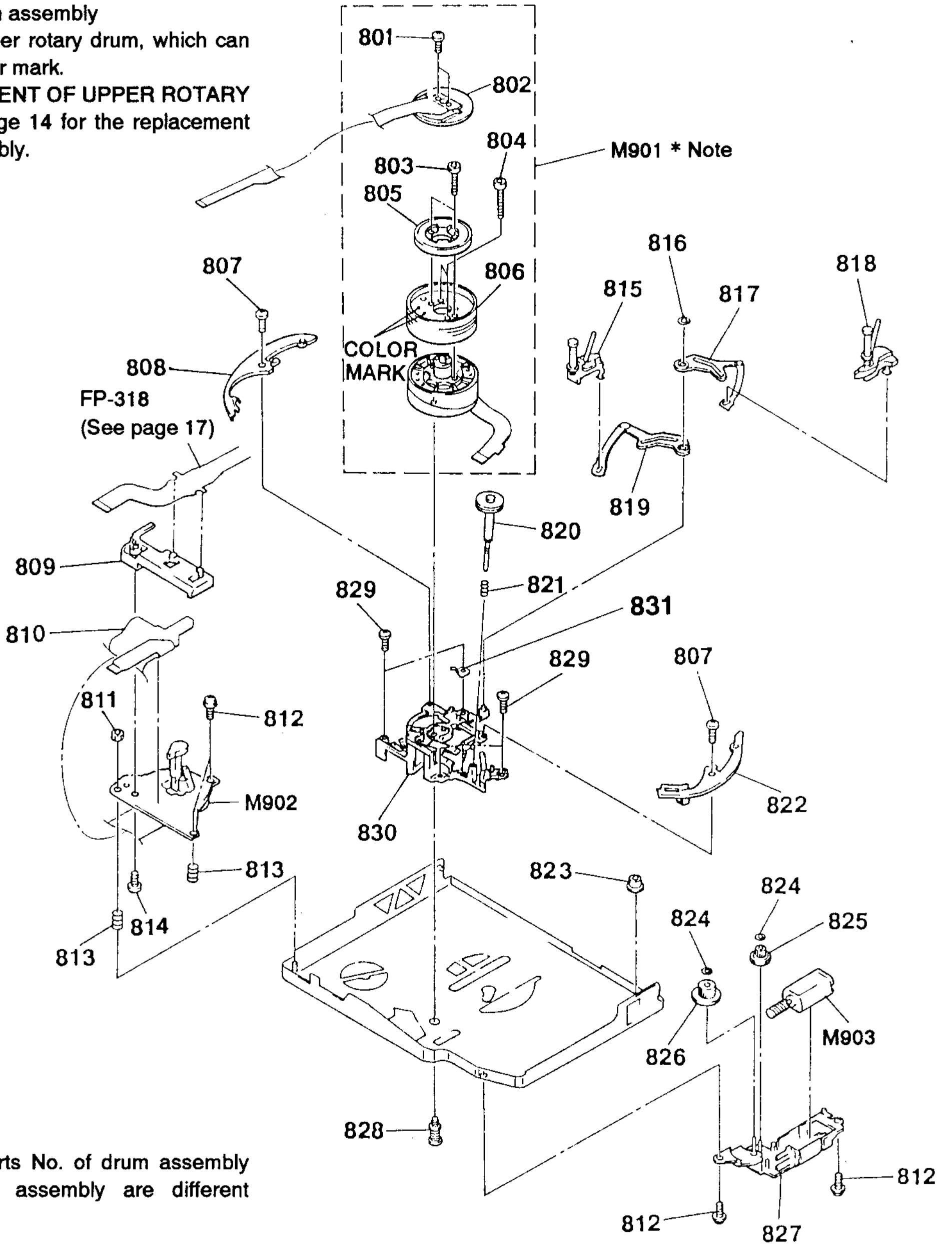
768
760
765
764
● A (FP-318)
763
757
769
771 (● A)
766
773
772
751
770
775
780
776
774 (● A)
781
777
779
778

Ref. No.	Part No.	Description	Remark
751	3-331-007-21	WASHER	
752	X-3943-732-1	TABLE ASSY, T REEL	
753	X-3943-733-1	TABLE ASSY, S REEL	
754	3-959-694-01	WASHER (LT), THRUST	
755	3-954-730-01	SPRING, TENSION	
756	X-3943-139-1	ARM ASSY, PINCH	
757	3-947-503-01	SCREW (M1.4X2.5)	
758	3-955-811-01	RETAINER, TG 9 ARM	
759	A-7040-368-A	ARM BLOCK ASSY, TG9	
760	3-954-729-01	SPRING, TORSION	
761	3-966-835-01	CLAW (VA), T SOFT	
762	3-966-834-01	GEAR (VA), T SOFT	
763	3-954-853-01	ARM, T SOFT	
764	3-954-854-01	SPRING, TENSION	
765	3-954-850-01	RATCHET, T	
766	3-954-855-01	ARM, T SOFT RELEASE	
767	A-7072-567-A	FP-316 BOARD, COMPLETE (SENSOR FLEXIBLE BOARD, COMPLETE) (Including FP-318 BOARD)	
768	3-732-046-01	HOLDER, LED	
769	X-3944-552-1	ARM ASSY (VA), TG1	
770	3-954-871-04	SPRING, TENSION	
771	3-954-887-01	HOLDER (T), SENSOR	
772	X-3946-021-1	CHASSIS ASSY, LS	
773	3-728-103-11	SCREW (M1.4X1.6), SPECIAL HEAD	
774	3-969-308-02	HOLDER (S2), SENSOR	
775	3-954-804-01	SPRING, LIMITER	
776	3-954-806-01	SPRING, TORSION	
777	3-954-805-01	ARM, T RATCHET RELEASE	
778	3-954-807-01	WASHER	
779	3-954-809-01	PLATE, CAM, LS	
780	3-957-931-02	RATCHET, S	
781	3-954-852-01	SPRING, TENSION	
S001	1-572-288-11	SWITCH, PUSH (C.C. LOCK)	
S002	1-692-614-11	SWITCH, PUSH (3 KEY) (Hi8 MP, REC PROOF, ME/MP)	

MECHANISM CHASSIS ASSEMBLY (1)

Note: About the upper rotary drum assembly
There are two kinds of upper rotary drum, which can be distinguished by the color mark.
Refer to "3-18. REPLACEMENT OF UPPER ROTARY DRUM ASSEMBLY" on page 14 for the replacement of upper rotary drum assembly.


801
802
803
804
805
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COLOR MARK
M901 * Note
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FP-318
(See page 17)
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820
821
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M902
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814
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825
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M903
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812
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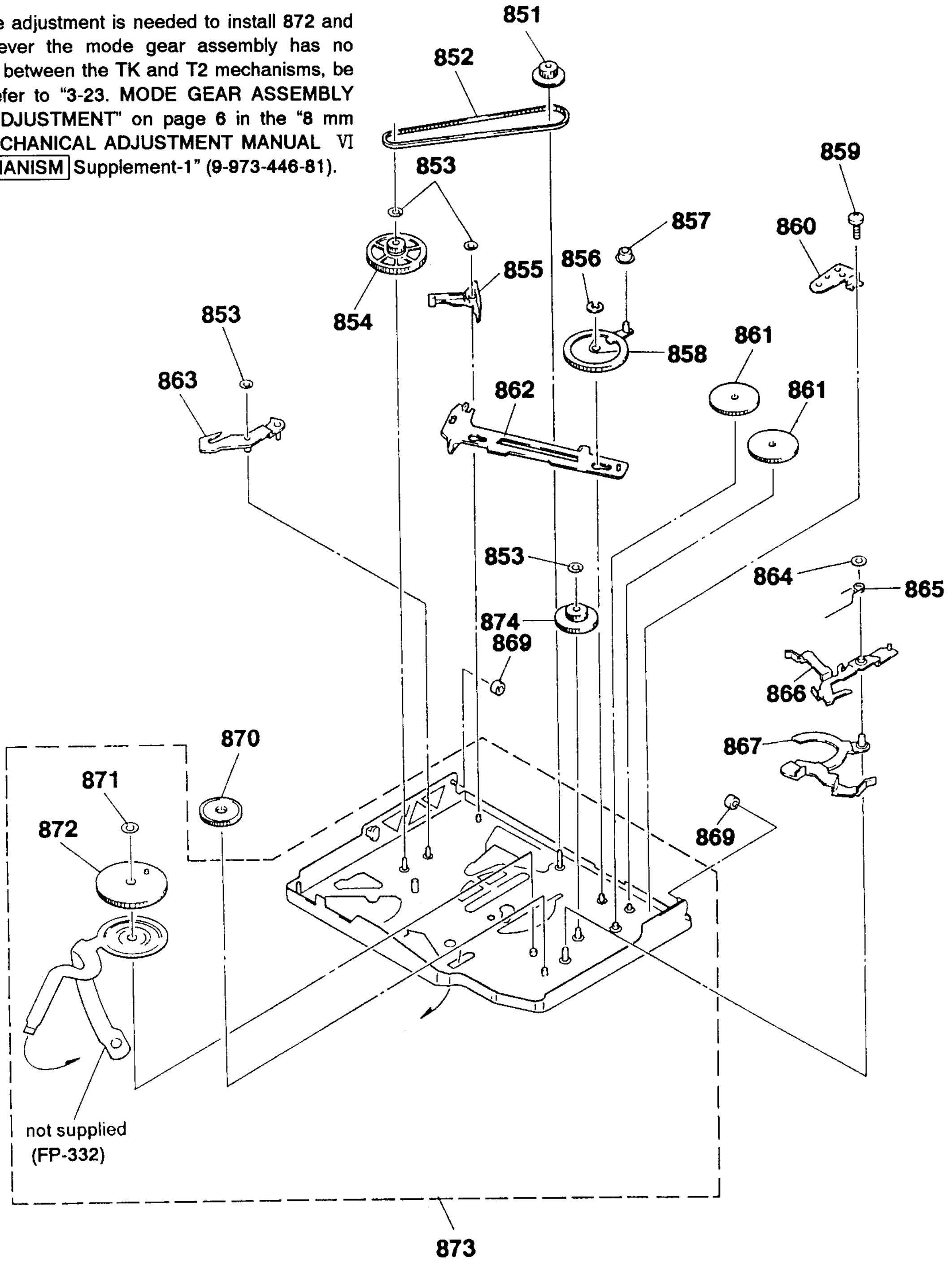
*** Note:** The model name and parts No. of drum assembly and upper rotary drum assembly are different depending on a set.

Ref. No.	Part No.	Description	Remark
801	3-728-108-41	SCREW (M1.4X2.7)	
802	A-7049-716-A	MOTOR BLOCK ASSY (STATOR)	
803	3-969-200-01	BOLT (M1.7X3.3), HEXAGON SOCKET	
804	3-727-809-02	BOLT (M1.4X5), HEXAGON SOCKET	
805	1-698-729-11	MOTOR, DRUM (LOWER ROTOR)	
806	* Note	DRUM ASSY, UPPER (COLOR MARK: GREEN, GREEN/RED, BLACK, BLACK/RED)	
806	* Note	DRUM ASSY, UPPER (COLOR MARK: RED, RED/RED, BLUE, BLUE/RED)	
807	3-967-081-01	SCREW (M1.6X3)	
808	3-954-899-01	RAIL, T	
809	3-969-305-01	BASE, HOLD	
810	1-657-785-11	FP-248 FLEXIBLE BOARD	
811	3-940-892-01	NUT, HEXAGON	
812	3-947-503-01	SCREW (M1.4X2.5)	
813	3-954-907-01	SPRING, COMPRESSION	
814	2-626-645-11	SCREW (M1.7), WAVE	
815	A-7040-404-D	COASTER (T) BLOCK ASSY (D)	
816	3-331-007-21	WASHER	
817	X-3943-149-1	ARM ASSY, S	
818	A-7040-403-C	COASTER (S) BLOCK ASSY (D2)	
819	X-3943-150-1	ARM ASSY, T	
820	X-3943-146-3	ROLLER ASSY, TG3	
821	3-954-886-01	SPRING, COMPRESSION	
822	3-954-898-02	RAIL, S	
823	3-954-739-01	ROLLER, LS GUIDE	
824	3-728-091-01	WASHER, STOPPER	
825	3-969-301-01	GEAR, WHEEL	
826	3-969-302-01	GEAR (A)	
827	X-3946-020-1	HOLDER ASSY, MOTOR	
828	X-3943-151-2	SCREW ASSY, FITTING	
829	3-703-816-51	SCREW (M1.4X3.5), SPECIAL HEAD	
830	X-3945-656-1	BASE ASSY, DRUM	
831	3-967-080-02	SPRING, GROUND	
M901	* Note	DRUM ASSY	
M902	1-698-735-12	MOTOR, CAPSTAN	
M903	X-3946-019-1	MOTOR ASSY, L (LOADING)	

MECHANISM CHASSIS ASSEMBLY (2)

Note: The phase adjustment is needed to install 872 and 874, however the mode gear assembly has no difference between the TK and T2 mechanisms, be sure to refer to "3-23. MODE GEAR ASSEMBLY PHASE ADJUSTMENT" on page 6 in the "8 mm Video MECHANICAL ADJUSTMENT MANUAL VI TK MECHANISM Supplement-1" (9-973-446-81).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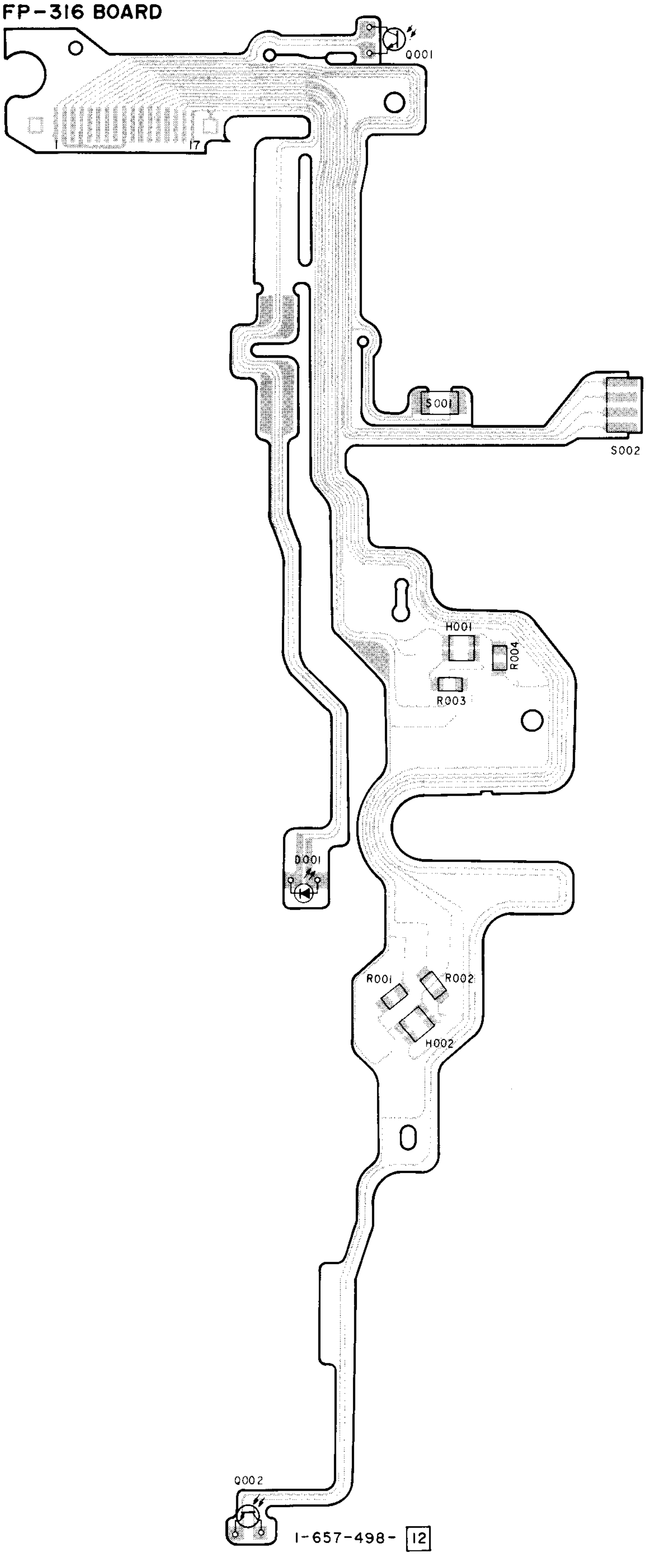
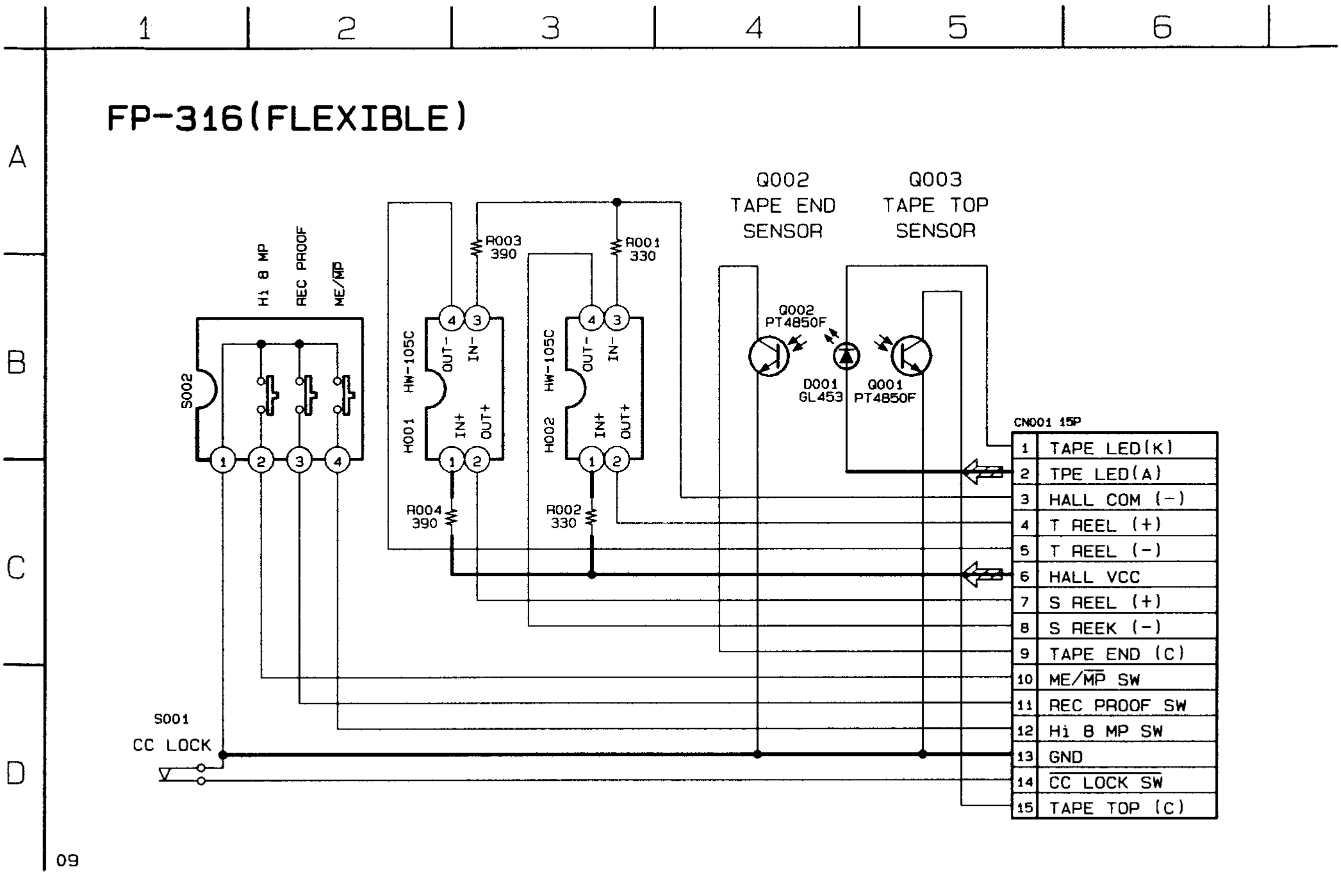
869
not supplied
(FP-332)
873

Ref. No.	Part No.	Description	Remark
851	3-957-929-01	PULLEY, RELAY	
852	3-954-789-01	BELT, RELAY	
853	3-331-007-21	WASHER	
854	X-3943-123-1	GEAR ASSY, CONVERSION	
855	3-954-741-01	ARM, EJ	
856	3-578-254-00	RING, RETAINING, E1.2	
857	3-957-367-01	ROLLER, LS GUIDE (2)	
858	3-954-752-01	GEAR, LS	
859	3-728-103-11	SCREW (M1.4X1.6), SPECIAL HEAD	
* 860	3-954-744-01	RETAINER, GEAR	
861	3-954-747-01	GEAR (D)	
862	3-954-748-01	SLIDER, M	
863	X-3943-336-1	ARM ASSY (VA), PINCH RELEASE	
864	3-955-804-01	WASHER	
865	3-954-791-01	SPRING, TORSION COIL	
866	3-964-954-01	ARM (VA), MODE	
867	X-3943-126-1	ARM (2) ASSY, MODE	
869	3-954-742-03	ROLLER, LS	
870	3-954-750-01	GEAR (B)	
871	3-579-788-01	WASHER, STOPPER	
872	X-3943-124-1	GEAR ASSY, MODE	
873	A-7040-452-A	CHASSIS SUB BLOCK ASSY, MECHANISM	
874	3-954-746-01	GEAR (C)	

6. PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM

FP-316 BOARD


Q001
1
17
S001
S002
H001
R004
R003
D001
R001
R002
H002
Q002
1-657-498- 12


1
2
3
4
5
6
A
B
C
D
FP-316(FLEXIBLE)
Q002
TAPE END
SENSOR
Q003
TAPE TOP
SENSOR
R003
390
R001
330
Hi 8 MP
REC PROOF
ME/MP
S002
HW-105C
H001
H002
OUT-
IN-
IN+
OUT+
R004
390
R002
330
Q002
PT4850F
D001
GL453
Q001
PT4850F
CN001 15P
1 TAPE LED(K)
2 TPE LED(A)
3 HALL COM (-)
4 T REEL (+)
5 T REEL (-)
6 HALL VCC
7 S REEL (+)
8 S REEK (-)
9 TAPE END (C)
10 ME/MP SW
11 REC PROOF SW
12 Hi 8 MP SW
13 GND
14 CC LOCK SW
15 TAPE TOP (C)
S001
CC LOCK
09

7. ELECTRICAL PARTS LIST

FP-316

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.

- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor.
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable

Ref. No.	Part No.	Description	Remark
	A-7072-567-A	FP-316 BOARD, COMPLETE (SENSOR FLEXIBLE BOARD COMPLETE) (Including FP-318 BOARD)	
		**********************	
	3-732-046-01	HOLDER, LED	
	3-954-887-01	HOLDER (T), SENSOR	
	3-969-308-02	HOLDER (S2), SENSOR	
		< DIODE >	
D001	8-719-988-42	DIODE GL453S	
		< HALL ELEMENT >	
H001	8-719-033-37	ELEMENT, HALL HW-105C	
H002	8-719-033-37	ELEMENT, HALL HW-105C	
		< TRANSISTOR >	
Q001	8-729-907-25	TRANSISTOR PT4850F	
Q002	8-729-907-25	TRANSISTOR PT4850F	
		< RESISTOR >	
R001	1-216-815-11	METAL CHIP 330 5% 1/16W	
R002	1-216-815-11	METAL CHIP 330 5% 1/16W	
R003	1-216-816-11	METAL CHIP 390 5% 1/16W	
		< SWITCH >	
S001	1-572-288-11	SWITCH, PUSH (CC LOCK)	
S002	1-692-614-11	SWITCH, PUSH (3 KEY) (Hi8 MP, REC PROOF, ME/MP)	

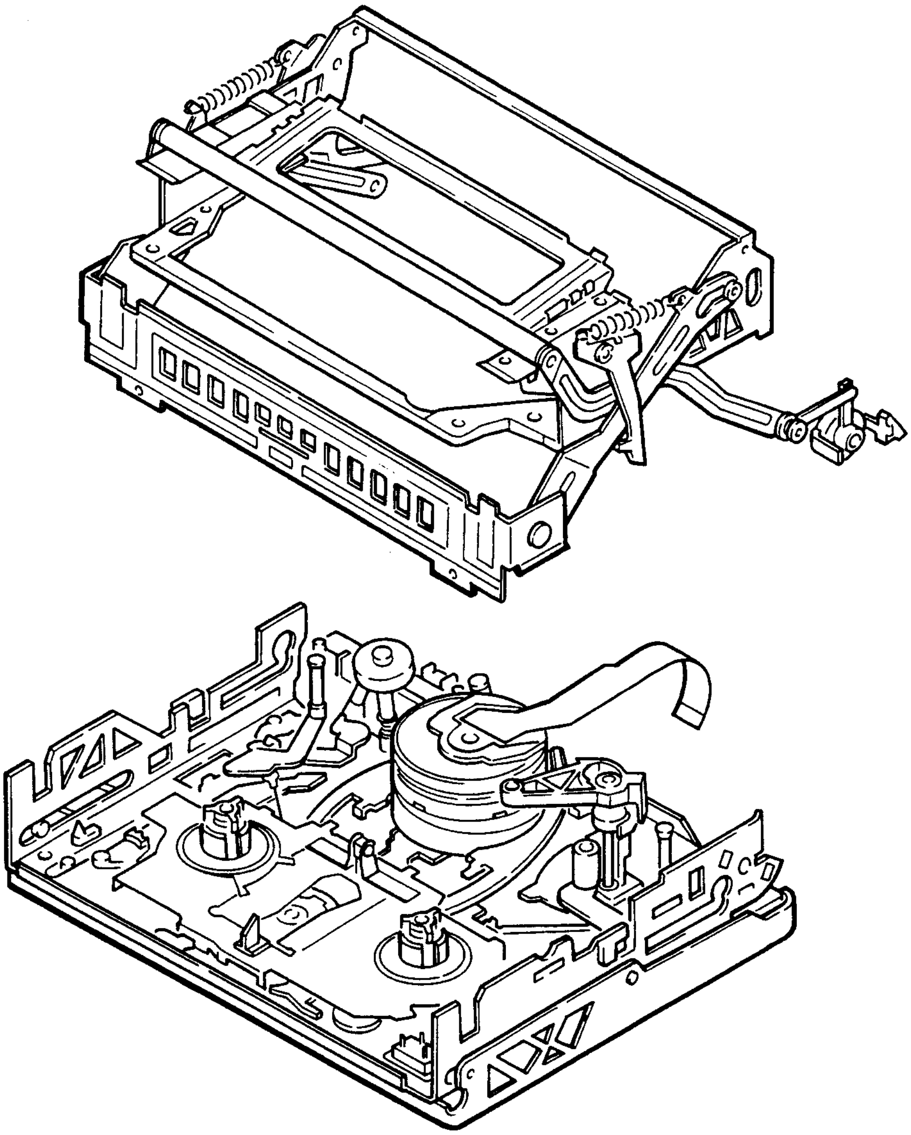
8mm Video MECHANICAL ADJUSTMENT MANUAL VI

V13024

TK MECHANISM

Video 8

File with the SERVICE MANUAL



8 VIDEO MECHANISM

SONY®

MICROFILM

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1. PREPARATION FOR MECHANICAL CHECK, ADJUSTMENT AND MAINTENANCE

For removal of the cabinet and boards, refer to "Disassembly" in each Service Manual.
Mechanical adjustment is done in the USE mode. (To select the USE mode, refer to the section "Handling of Mode Selector II " in supplement-1 of the separate volume.

1-1. CASSETTE COMPARTMENT HOLDER ASSEMBLY (Fig. 1)

1. Removing

1) Set the USE mode.
2) Remove the claw ② of the damper assembly ①, slide the damper assembly in the direction of arrow 🅐 and remove it.
3) Remove the two screws ④.
4) Rotate the cassette compartment holder assembly ⑤ in the direction of arrow 🅑, next slide it in the direction of arrow 🅒, and remove the C rollers ⑧ and ⑨ from the long holes ⑥ and ⑦.

2. Attaching

1) Set the USE mode.
2) Insert the C rollers ⑧ and ⑨ into the long holes ⑥ and ⑦ and slide the cassette compartment holder assembly in the opposite direction of arrow 🅒.
   Note: Make sure the C rollers ⑧ and ⑨ have been inserted properly into the long holes ⑥ and ⑦.
3) Rotate the cassette compartment holder assembly ⑤ in the opposite direction of arrow 🅑.
   Note: Make sure the C lock plate ⑩ is inside the LS chassis.
4) Attach the two screws ④.
5) Insert the shaft into the hole of the damper arm, insert the claw ③ of the damper assembly ① into the hole ⑪ of the LS chassis, slide the damper in the opposite direction of arrow 🅐, and fix the claw ②.
   Note: Make sure the claws ② and ③ of the damper assembly are fixed on properly.

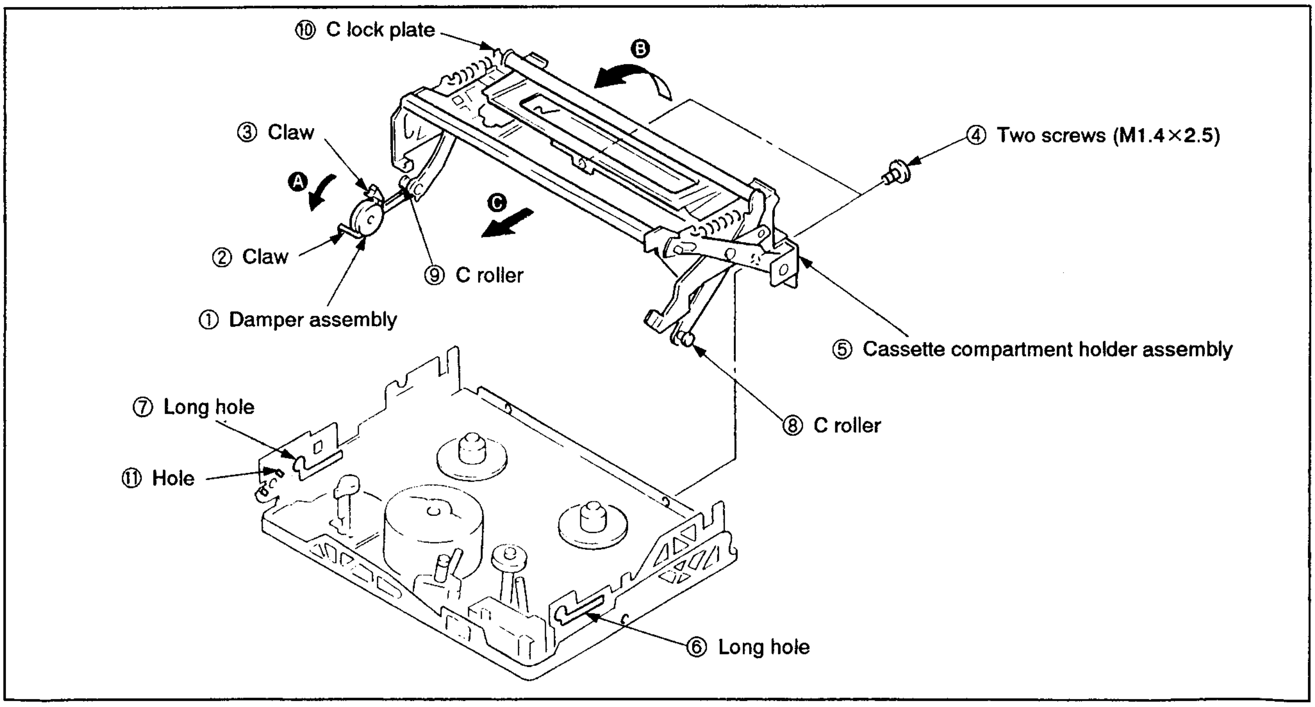


Fig. 1.

1-2. HP ARM BLOCK ASSEMBLY

1. Removing

1) Set the unit to the EJECT position with the cassette compartment holder assembly removed or attached.
2) Move the HP arm block assembly in the direction of arrow 🅐 with your hand. (See Fig. 2-B.)

Note: As the HC roller of the HP arm block assembly will not touch the drum in the EJECT position, move it away from the drum with your hand. (See Fig. 2-A.)

3) Remove the screw ①, and in the state of 2), remove the HP arm block assembly in the direction of arrow 🅑.

2) Attaching

1) Set the unit to the EJECT position.
2) Hold the HP plate with your fingers and press the HP lever at the part indicated in Fig. 2-B.
3) In the state of 2), attach the HP arm block assembly to the capstan motor.

Note: When attaching, make sure that the HC roller does not touch the drum.

4) Adjust the hole of the HP plate to the positioning dowel, tighten the screw ①, and attach the HP arm block assembly.

Note: When attaching, be careful not to touch the tension spring with your hand and change its shape.

5) After attaching, check that it works properly. First, check that the HP arm block assembly is attached at the position shown in Fig. 2-A. Next, check that the HC roller moves away from the drum when the HP lever is rotated in the direction of arrow 🅐 shown in Fig. 2-B.

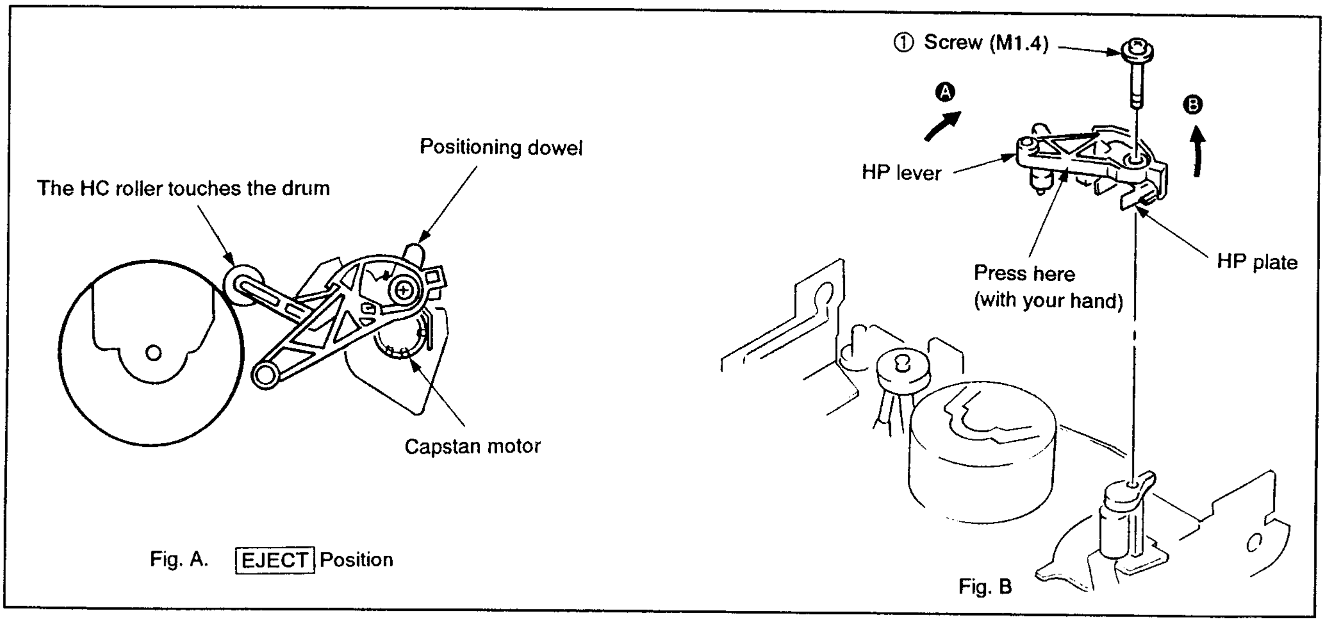


Fig. A. EJECT Position

Fig. B

Fig. 2.

1-3. OPERATING WITH THE CASSETTE COMPARTMENT HOLDER ASSEMBLY REMOVED

1. Loading (See Fig. 3.)

1) Remove the HP arm block assembly according to section 1-2.
2) Refer to the service manual, and with the cabinet and camera section removed, supply the power. (So that the mechanism deck can be operated.)
3) Set the TEST mode using the adjusting remote commander. (Ref No. J-13)
4) Press the knob of the push switch ① in the direction of the arrow. The set will be set into loading.

☆ PB, FF/REW, QUE/REV can be carried out in this state.

2. Setting REC

1) Push the pin of the push switch (3 keys) ② shown in the figure (ON) and fix it with adhesive tape ③.
2) Next, set the power supply switch of the set to VTR (or CAMERA).
3) Turn on the REC switch. (When the TEST mode is set, the rotation detection of S and T reel tables and T/E sensor, etc. will stop operating and the tape can be run.)

3. Ejecting

1) Turn on the EJECT switch.

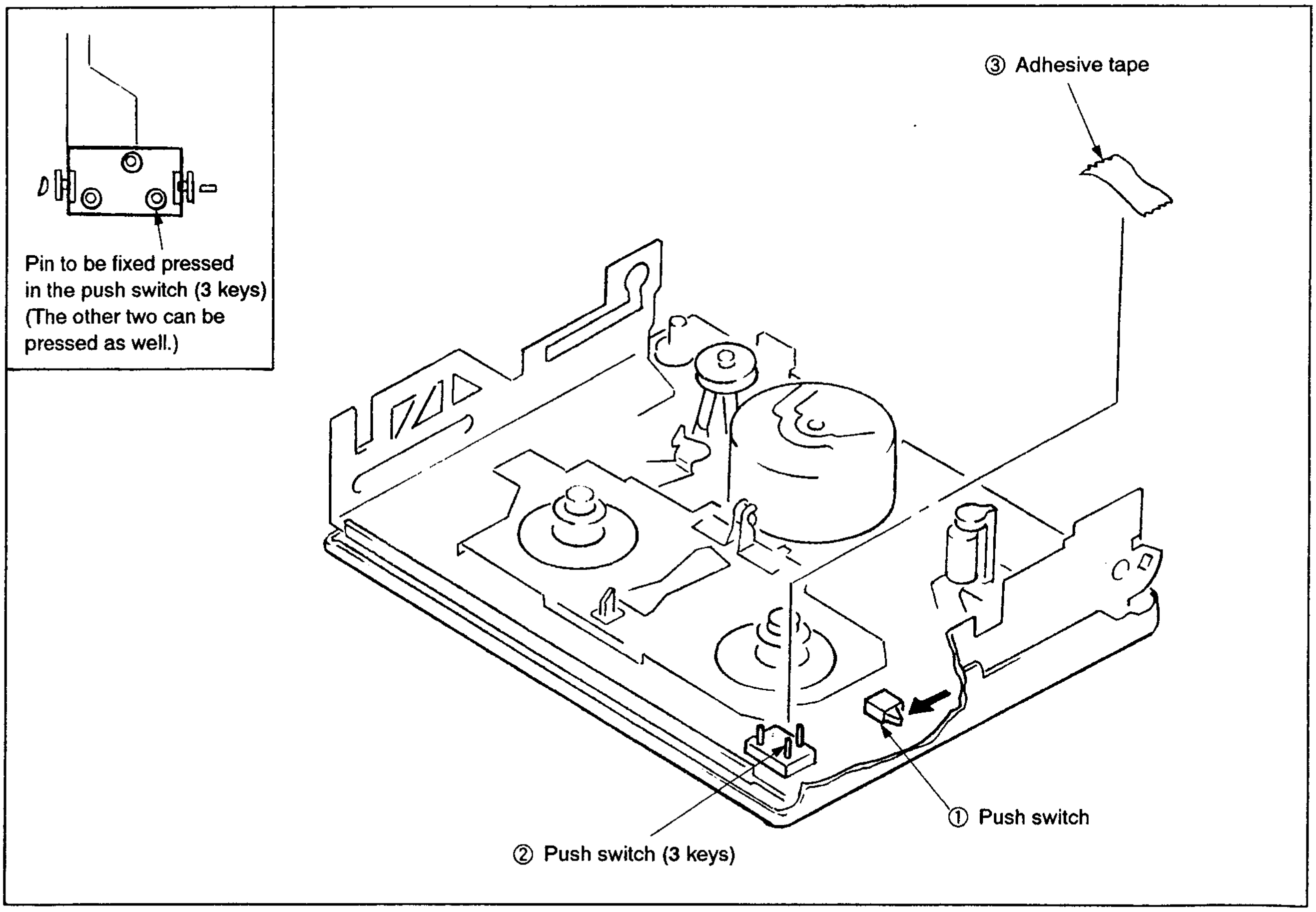

Pin to be fixed pressed in the push switch (3 keys) (The other two can be pressed as well.)
③ Adhesive tape
① Push switch
② Push switch (3 keys)

Fig. 3.

2. PERIODIC CHECK AND MAINTENANCE

- Carry out the following maintenance and periodic checks not only to fully display the functions and performance of the set, but also for the equipment and tape. After repairing, service the set as follows, regardless of the length of use.

2-1. CLEANING OF ROTARY DRUM ASSEMBLY

1) Press a chamois cloth (Ref No. J-2) moistened with cleaning fluid (Ref No. J-1) against the rotary drum assembly gently, and clean it while rotating the upper rotary drum assembly slowly with your finger in the counterclockwise direction.

Note: Do not rotate the motor on power or rotate the upper rotary drum assembly in the clockwise direction with your finger. The head tip will also be damaged if the chamois cloth is moved perpendicularly against it. Therefore, be sure to follow the above instructions when cleaning the rotary drum assembly.

2-2. CLEANING OF TAPE PATH SYSTEM (See Fig. 4.)

1) In the EJECT mode, clean the tape path systems (TG-1, 2, 3, 4, 5, 6, 7, 8, 9, pinch roller, capstan shaft) and the lower drum using a superfine applicator (Ref No. J-3) moistened with cleaning fluid.

Note: Make sure that no oil or grease of the link mechanisms sticks to the superfine applicator (Ref No. J-3.)

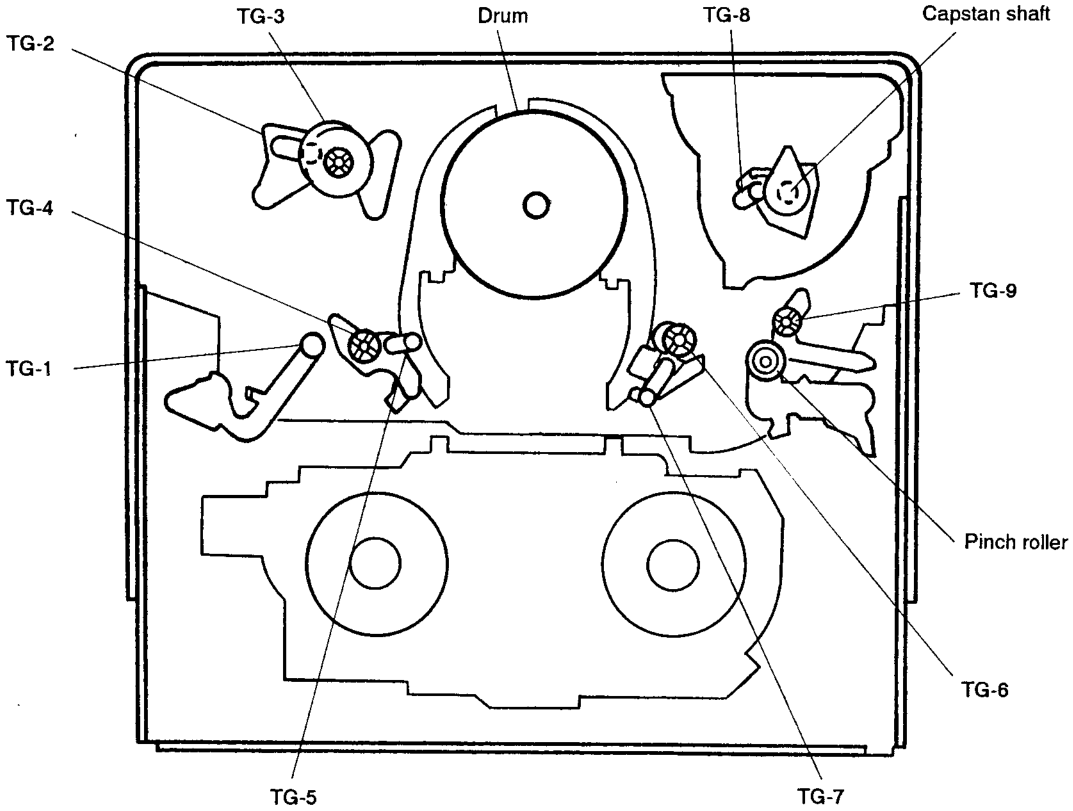


Fig. 4.

2-3. PERIODIC CHECKS

Location of Maintenance and Check		Hours of Use (H)										Remarks
		500	1000	1500	2000	2500	3000	3500	4000	4500	5000	
	Cleaning of tape path surface	○	○	○	○	○	○	○	○	○	○	Be careful of the oil
	Cleaning and degaussing of rotary drum assembly	○	○	○	○	○	○	○	○	○	○	Be careful of the oil
Driving System	Relay belt	—	☆	—	☆	—	☆	—	☆	—	☆	3-954-789-01
	Capstan shaft	—	◎	—	◎	—	◎	—	◎	—	◎	Make sure that no oil gets on the tape path surface.
	Conversion gear shaft Relay pulley shaft	—	◎	—	◎	—	◎	—	◎	—	◎	
	Loading motor	—	☆	—	☆	—	☆	—	☆	—	☆	X-3943-127-1
Performance Confirmation	Abnormal noise	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	
	Back tension measurement	—	☆	—	☆	—	☆	—	☆	—	☆	
	Brake system	—	☆	—	☆	—	☆	—	☆	—	☆	
	FWD RVS } Torque measurement	—	☆	—	☆	—	☆	—	☆	—	☆	

○ : Cleaning ◎ : Oil ☆ : Confirmation

Note: When overhauling, refer to the checks above and replace parts.

Note: Oiling

- Be sure to use the specified oil. (If the viscosity of the oil is different, etc., problems may result.)
  Oil: Part No. 7-661-018-18
  (Mitsubishi Diamond Oil Hydrofluid NT-68)
- When lubricating bearings, be sure to use oil free from dust, etc. (If oil containing dusts, etc. is used, bearings may wear out, burn, etc.)
- A drop of oil means the amount on the tip of a 2 mm diameter stick as shown in the Fig 5.

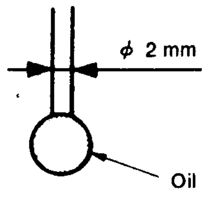


Fig. 5.

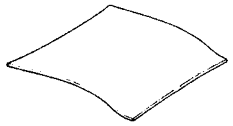
2-4. SERVICE JIGS LIST

Ref. No.	Name	Part No.	Fixture No.	Usage, Others
J-1	Cleaning fluid	Y-2031-001-0	——	
J-2	Chamois cloth	2-034-697-00	——	
J-3	Super fine applicator (Made by NIPPON APPLICATOR (P752D))		——	
J-4	Head degausser	Any sold	——	
J-5	Small mirror for adjustment Spare mirror	J-6080-029-A J-6080-030-A	SL-5052	Tape path
J-6	Alignment tape (WR5-1N)	8-967-995-01		Tape path
J-7	Dial tension gauge	J-6080-827-A		Various torque measurement
J-8	Tension measurement reel	J-6080-831-A		With ϕ 30 tape
J-9	Tension measurement reel	J-6080-832-A		With ϕ 16 string
J-10	FWD and RVS take-up torque cassette	J-6080-824-A	GD-2086	
J-11	Drum screwdriver (Hexagonal wrench screwdriver)	7-700-766-01		
J-12	Screwdriver for tape path	J-6082-026-A		For adjusting tape guide
J-13	Adjusting remote commander (RM-95-remodeled partly) $^{\text{Note 1}}$	J-6082-053-A		
J-14	Mode selector II	J-6082-282-A		For all models

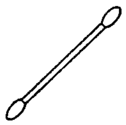
Other equipment used
- Oscilloscope
- Analog tester (20 kΩ)

J-1

J-2



J-3



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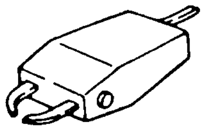
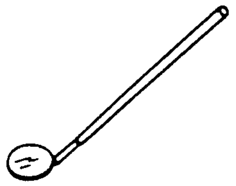
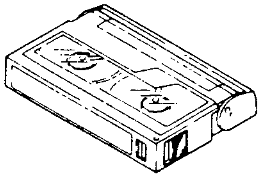


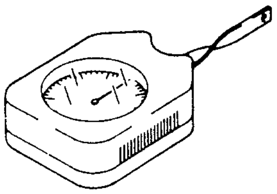
J-5



J-6



J-7



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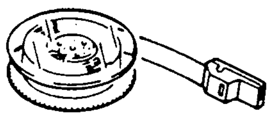

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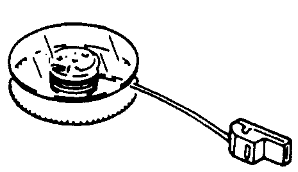

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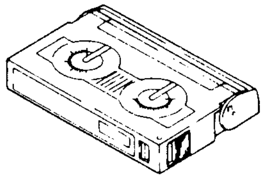

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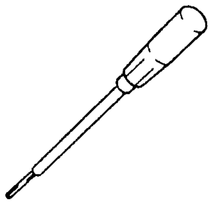
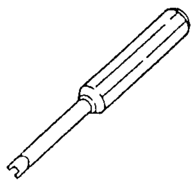
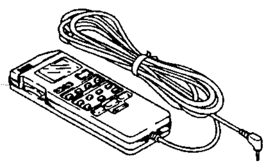


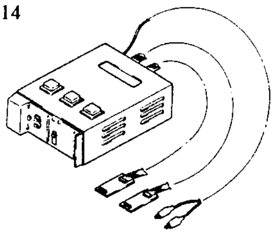
J-12



J-13



J-14



Note 1: If the micro processor IC in the adjusting remote commander is not the new micro processor (UPD7503G-C56-12), the pages cannot be switched. In this case, replace with the new micro processor (8-759-148-35).

3. MECHANISM SECTION CHECKS, ADJUSTMENTS, AND REPLACEMENTS

Note: Use the mode selector II (Ref No. J-14) in the checks, adjustments, and replacements for this mechanism section.

Note: The mode in $\boxed{\quad}$ is set by pressing the button of the mode selector.

3-1. RETAINER ASSEMBLY (See Fig. 6.)

1. Removing

1) Set the $\boxed{\text{USE}}$ mode.
2) Refer to 1-1 and remove the cassette compartment holder assembly.
3) Rotate the LED in the direction of arrow Ⓐ as shown in Fig. A and remove it the direction of arrow Ⓑ.
4) Remove the screw ①.
5) Rotate the lever (Outsert) ⑦ in the clockwise direction and remove the claw ④.
6) While lifting up the retainer assembly ⑤, push it the direction of arrow Ⓒ and remove it.

Note: Be careful when attaching and removing the retainer assembly as the shape of its LED holder changes easily.

2. Attaching

1) Set the $\boxed{\text{USE}}$ mode.
2) Insert the claws ②, ③ of the retainer assembly ⑤ into the two hooks ⑥ of the LS chassis without sandwiching the LED.
3) Fix the screw ①.
4) Rotate the lever (Outsert) ⑦ in the counterclockwise direction so that it comes on top of the claw ④.
5) As shown in Fig. B, insert the LED in the direction of arrow Ⓐ, rotate it in the direction of arrow Ⓑ and attach it.
6) As shown in Fig. C, bend a flexible board and put it in the holder.
7) Refer to 1-1 and attach the cassette compartment holder assembly.

Note: Check that the pin ⑧ of the gooseneck gear assembly protrudes out of the hole on the retainer assembly. (See Fig. D.)

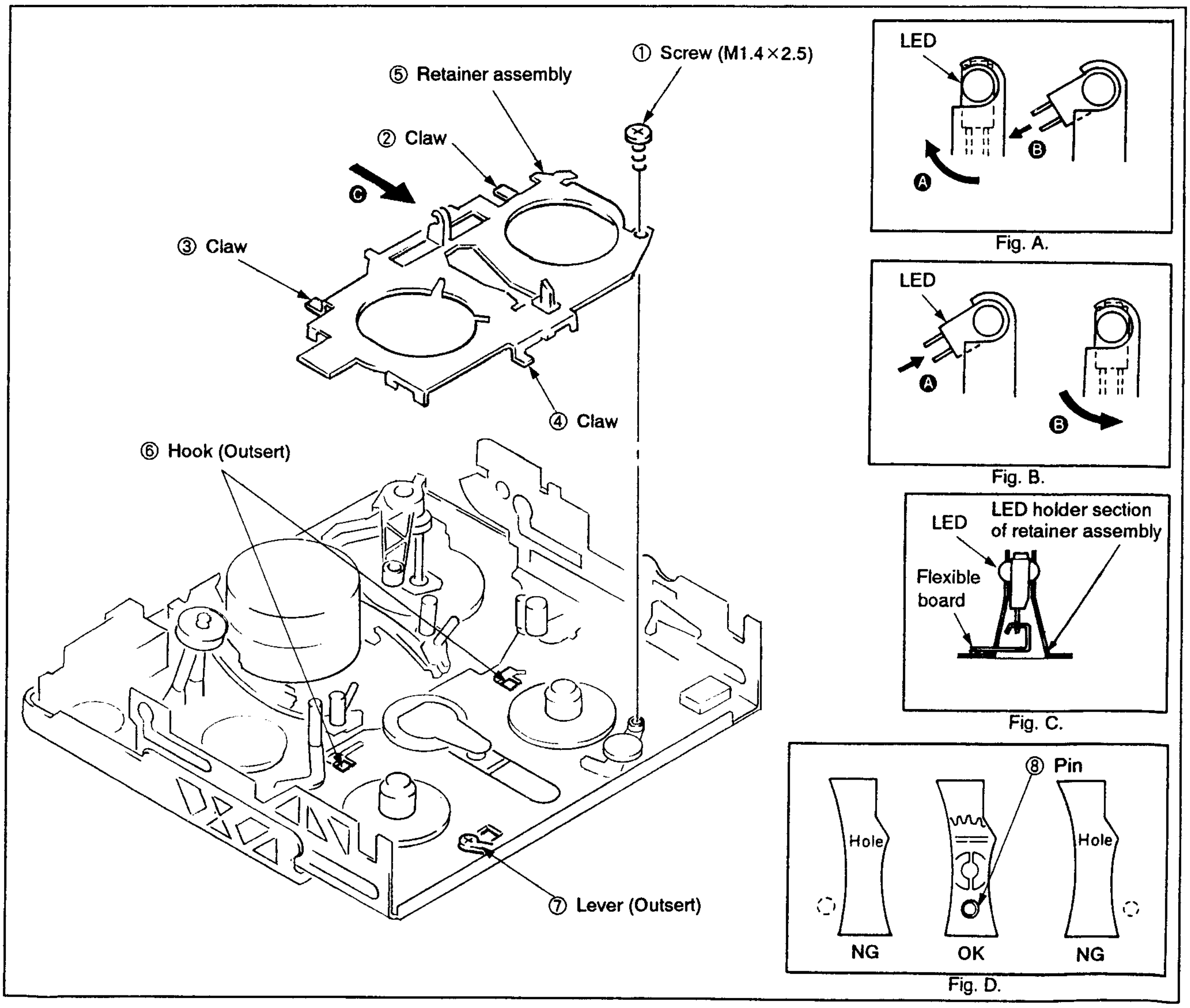

① Screw (M1.4×2.5)
⑤ Retainer assembly
② Claw
Ⓒ
③ Claw
④ Claw
⑥ Hook (Outsert)
⑦ Lever (Outsert)
LED
Ⓐ
Ⓑ
LED
Ⓐ
Ⓑ
LED
LED holder section of retainer assembly
Flexible board
⑧ Pin
Hole
Hole
NG
OK
NG

Fig. A.

Fig. B.

Fig. C.

Fig. D.

Fig. 6.

3-2. S REEL TABLE ASSEMBLY (See Fig. 7.)

1. Removing

1) Set the USE mode.
2) Refer to 1-1 and remove the cassette compartment holder assembly.
3) Refer to 3-1 and remove the retainer assembly.
4) Remove the washer ④.
5) Remove the screw ① and remove the adjusting block ② from the boss of the LS chassis.
   Next, remove the tension regulator string ③ from the groove of the S reel table in the counterclockwise direction without changing its shape.

Note: Be careful that grease does not get onto the tension regulator string ③ , etc. and do not hold it with bare hands.

6) Remove the S reel table assembly ⑥.

Note: Hold the reel claw ※ when removing and attaching the S reel table assembly ⑥.

2. Attaching

1) Set to the USE mode.
2) As shown in Fig. B, move the S ratchet ⑤ in the direction of arrow 🅐.
3) Attach the S reel table assembly ⑥ to the shaft ⑦. Attach the washer ④.
4) Hold the adjusting block and insert the tension regulator string ③ into the groove of the S reel table in the clockwise direction and finally place the adjusting block ② on top of the boss of the LS chassis.
5) Tighten the screw ①.

Note: Do not tighten it too tightly because the tension regular position adjustment is to be carried out later.

6) Refer to 3-21 and adjust the tension regulator position.
7) Refer to 3-22 and adjust the FWD back tension.
8) Refer to 3-1 and attach the retainer.
9) Refer to 1-1 and attach the cassette compartment holder assembly.

Note: Do not hold the tension regulator string ③ with bare hands. Be careful that grease does not get onto it, etc.

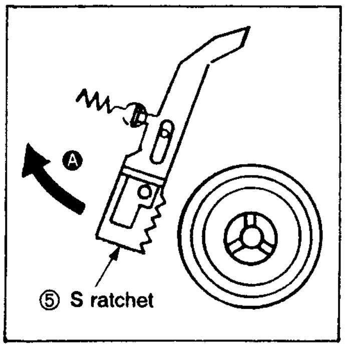


Fig. B.

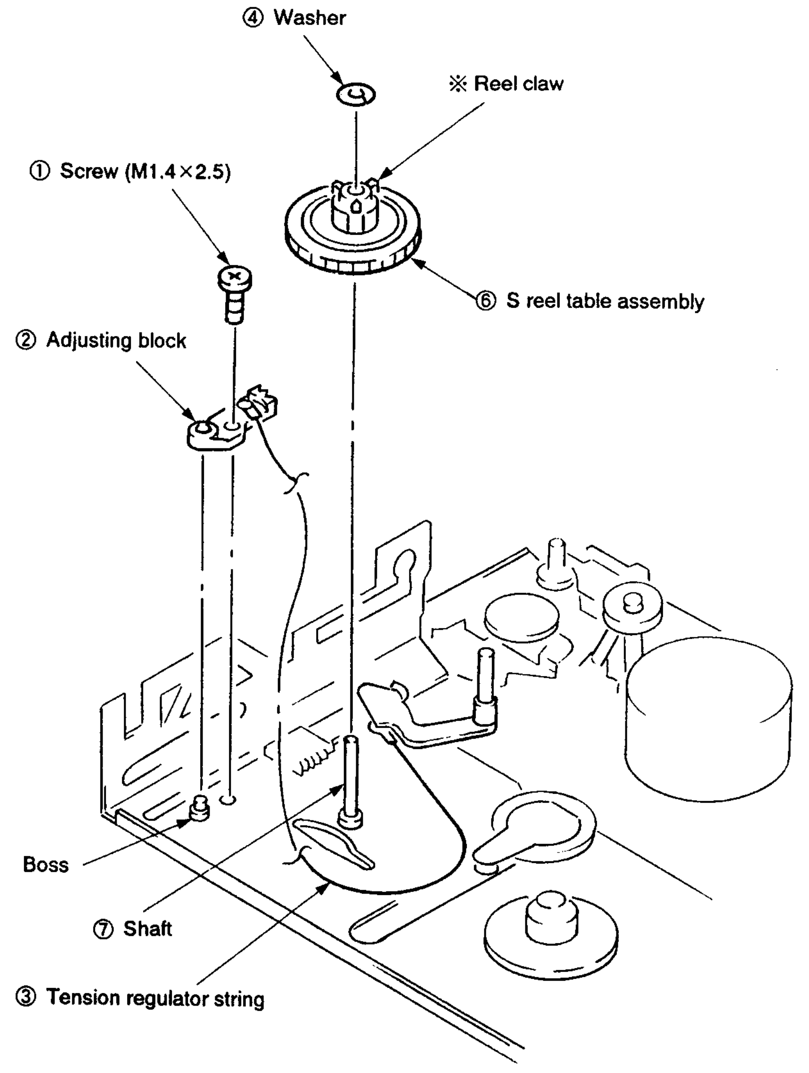


Fig. 7.

3-3. T REEL TABLE ASSEMBLY (See Fig. 8.)

1. Removing

1) Set the $\boxed{\text{USE}}$ mode.
2) Refer to 1-1 and remove the cassette compartment holder assembly.
3) Refer to 3-1 and remove the retainer assembly.
4) Remove the T reel table assembly ①.

Note: Hold the reel claw ※ when removing and attaching the T reel table assembly ①.

2. Attaching

1) Set the $\boxed{\text{USE}}$ mode.
2) As shown in Fig. A, apply a layer of oil on the shaft ② using a cotton stick.

Note: Do not apply too much.

3) Attach the T reel table assembly ① to the shaft ②.
4) Refer to 3-1 and attach the retainer assembly.
5) Refer to 1-1 and attach the cassette compartment holder assembly.

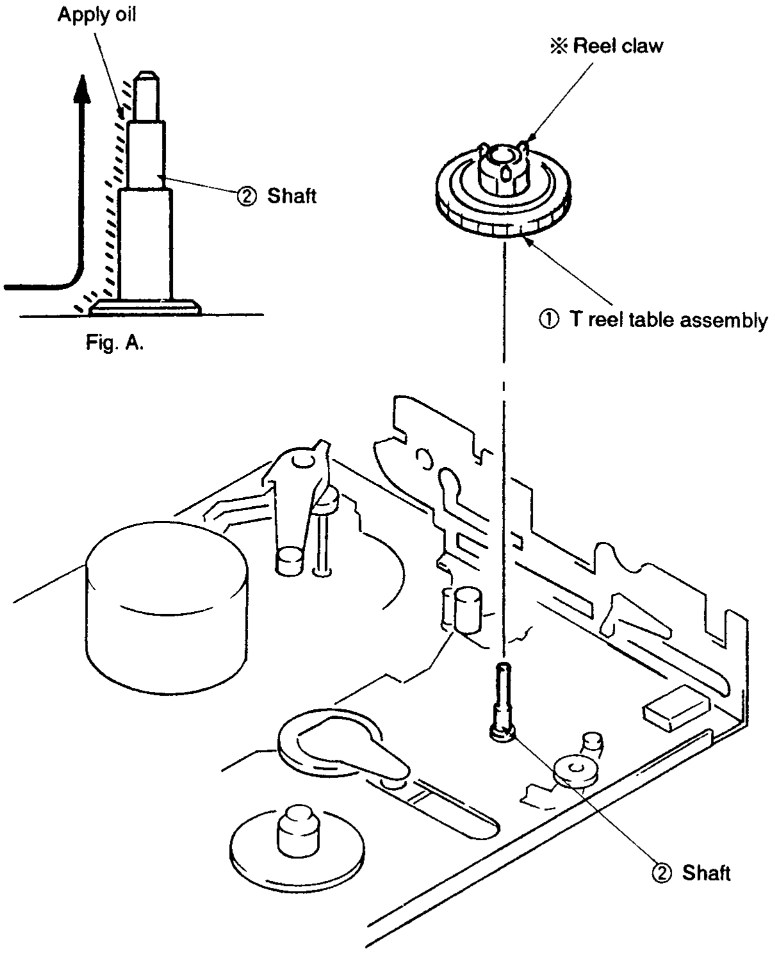


Fig. A.

Fig. 8.

3-4. T SOFT GEAR ASSEMBLY, T SOFT ARM, T SOFT RELEASE ARM (See Fig. 9.)

1. Removing

1) Set the USE mode.
2) Refer to 1-1 and remove the cassette compartment holder assembly.
3) Refer to 3-1 and remove the retainer assembly.
4) Refer to 3-3 and remove the T reel table assembly.
5) Remove the T soft gear assembly ②.
6) Remove the tension coil spring ①.
7) Remove the T soft arm ③.
8) Rotate the T soft release arm ④ in the counterclockwise direction and remove it.

2. Attaching

1) Set the USE mode.
2) Attach the T soft release arm ④ and rotate it in the clockwise direction.
3) Attach the T soft arm ③.
4) Attach the tension coil spring ①.
5) Attach the T soft gear assembly ②.
6) Refer to 3-3 and attach the T reel table.
7) Refer to 3-1 and attach the retainer assembly.
8) Refer to 1-1 and attach the cassette compartment holder assembly.

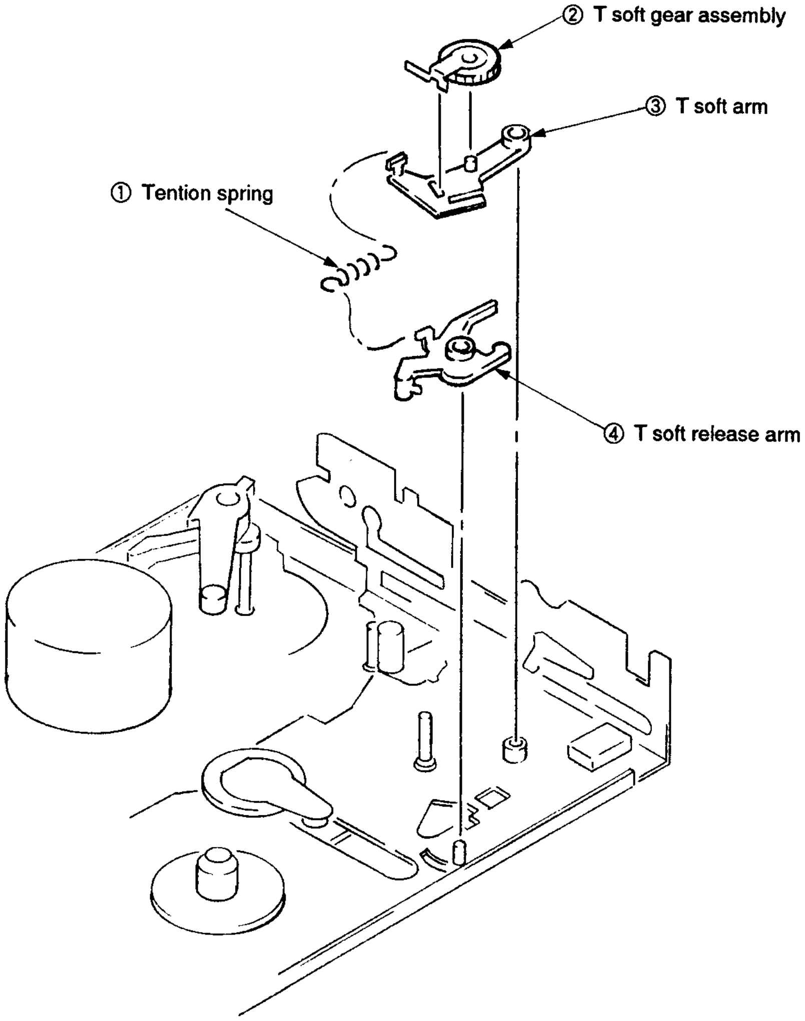


Fig. 9.

3-5. S RATCHET (See Fig. 10.)

1. Removing

1) Set the USE mode.
2) Refer to 1-1 and remove the cassette compartment holder assembly.
3) Refer to 3-1 and remove the retainer assembly.
4) Remove the lock washer ① and remove the tension coil spring ②.
5) Remove the S ratchet ③.

2. Attaching

1) Set the USE mode.
2) As shown in Fig. A, apply 1/4 of a drop of oil to the part on the shaft ④ indicated by the arrow.
3) Attach the S ratchet ③ to the shaft ④.
   Attach so that the tip goes belows the TG-1 arm.

Note: Make sure that the tension regulator spring does not change its shape when the S ratchet is moved under the TG-1 arm.

4) Hook the tension coil sprig ② onto the claw and secure with the lock washer ①.
5) Refer to 3-1 and attach the retainer assembly.
6) Refer to 1-1 and attach the cassette compartment holder assembly.

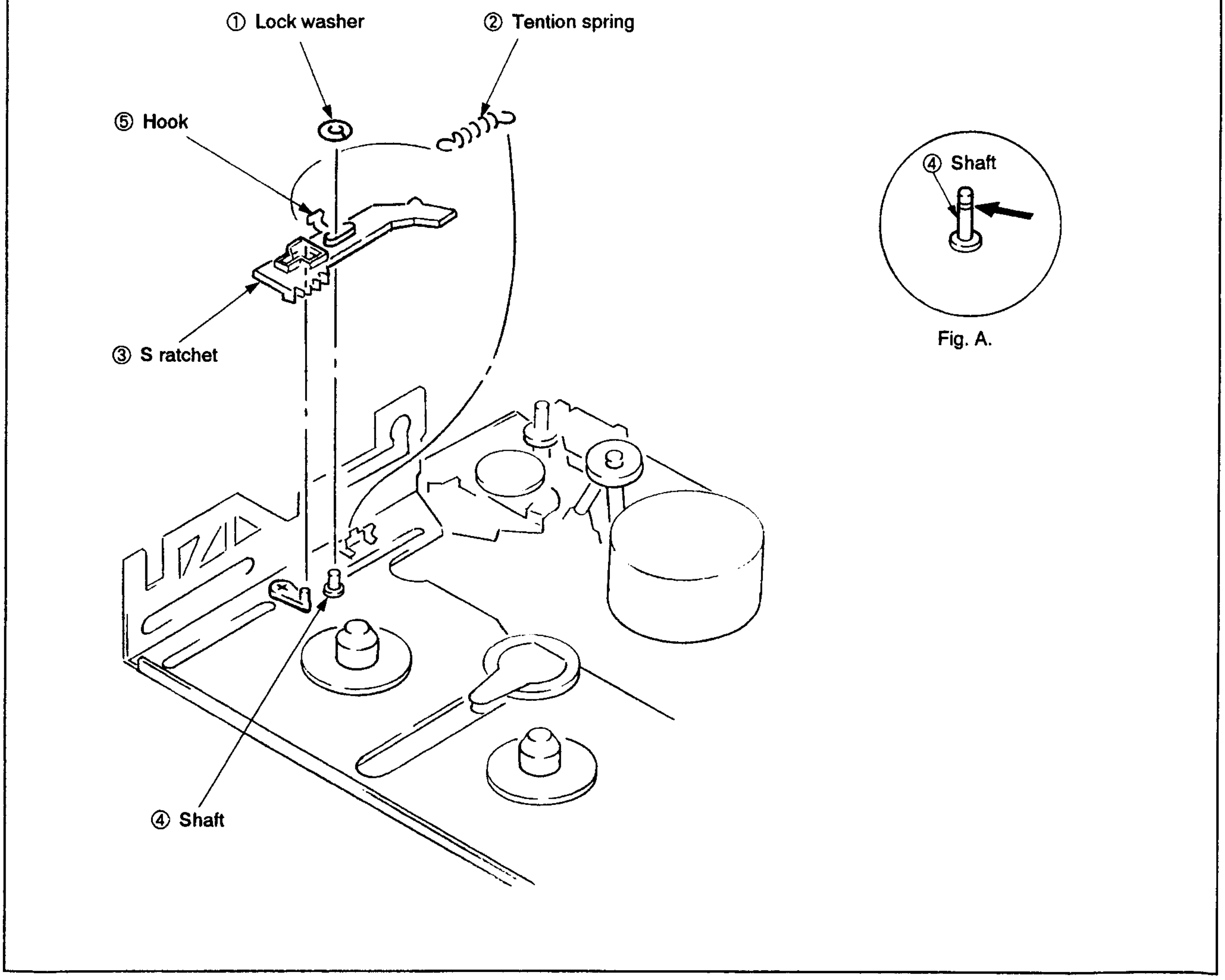


Fig. 10.

3-6. LS CHASSIS ASSEMBLY

1. Removing (See Fig. 11.)

1) Set the USE mode.
2) Refer to 1-1 and remove the cassette compartment holder assembly.
3) Refer to 3-1 and remove the retainer assembly.
4) Remove the washer ① and remove the gooseneck gear assembly ②.
5) Set the DOCK mode.
6) Remove the flexible retainer ③ and remove the flexible board ④.
7) Rotate the four LS retainers in the direction of arrow 🅒 shown in Fig. B.
8) Remove the LS chassis assembly ⑤ in the direction of arrow 🅐.

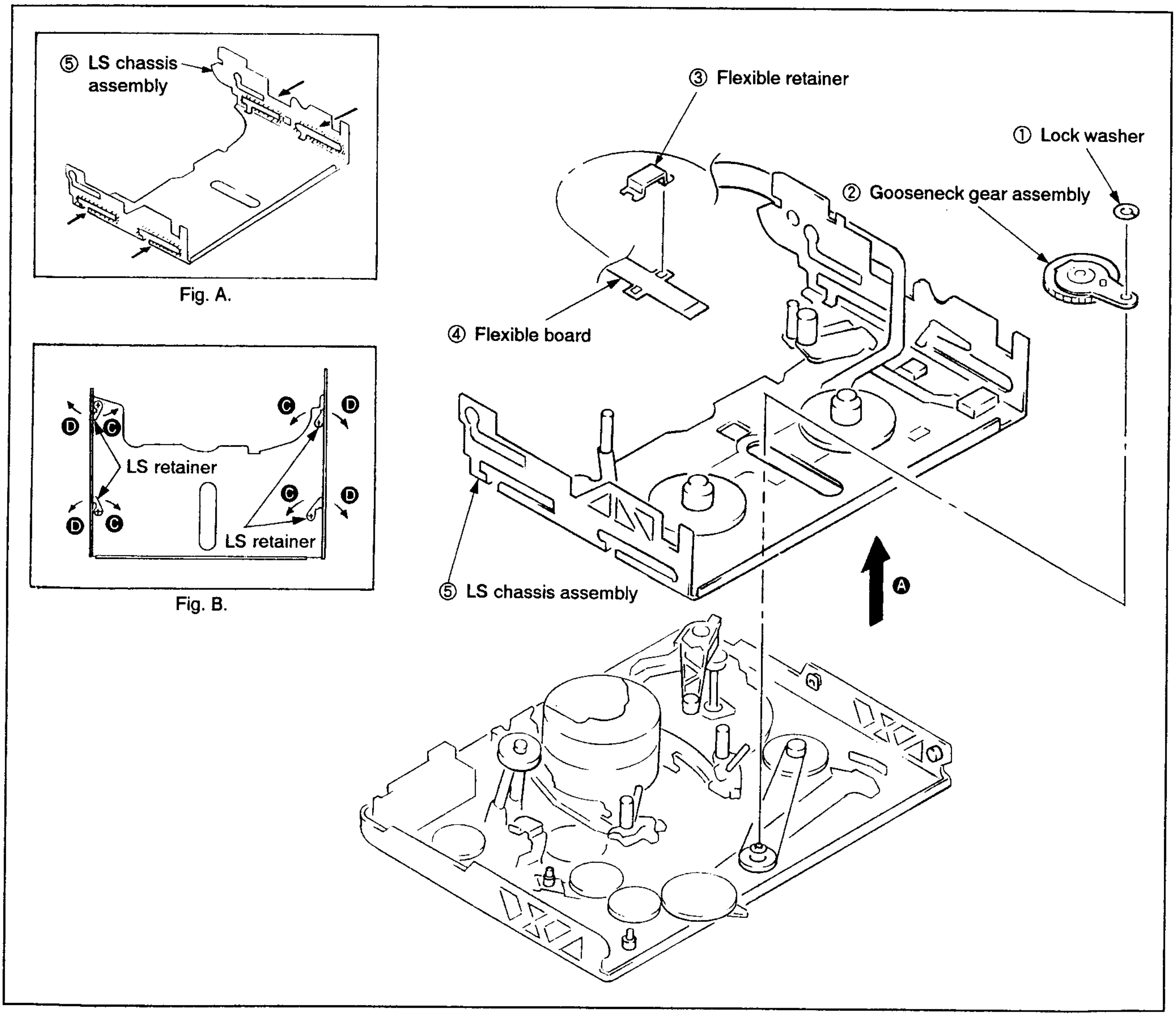

⑤ LS chassis assembly
LS retainer
LS retainer
🅒
🅓
③ Flexible retainer
① Lock washer
② Gooseneck gear assembly
④ Flexible board
⑤ LS chassis assembly
🅐

Fig. A.

Fig. B.

Fig. 11.

2. Attaching (See Fig. 11. to 18.)

1) As shown in Fig. A, apply grease (SG-941) to the punched side of the sheet metal of LS chassis assembly ⑤ indicated by the arrows.
2) Set the DOCK mode and start docking.
When docking the mechanism chassis and LS chassis assembly ⑤, always set the following.
3) Adjust the holes for the S arm assembly and T arm assembly to the holes for the mechanism chassis. (See Fig. 12.).

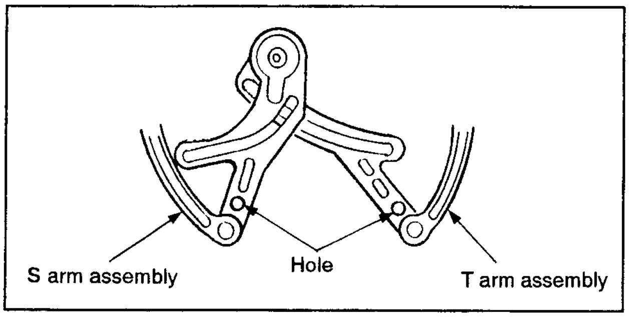

S arm assembly
Hole
T arm assembly

Fig. 12.

4) Move the TG-1 arm assembly in the arrow direction and insert the pin into the groove of the mechanism chassis. (See Fig. 13.).

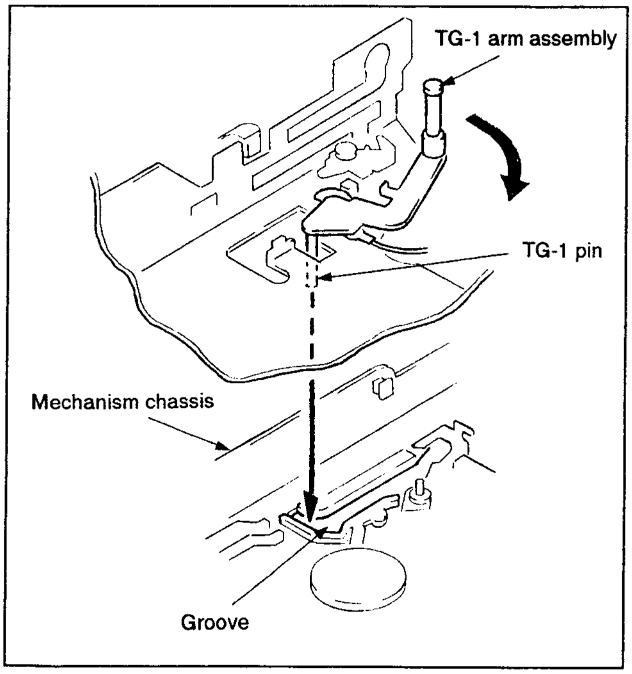

TG-1 arm assembly
TG-1 pin
Mechanism chassis
Groove

Fig. 13.

5) Move the T soft arm in the direction of the arrow and insert the pin of the T soft press arm (back side of LS chassis) into the right side of the cam of the mechanism chassis. (See Fig. 14.).

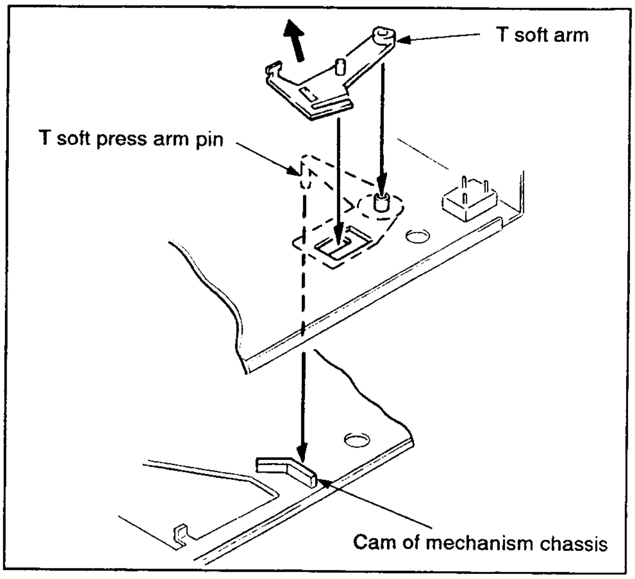

T soft arm
T soft press arm pin
Cam of mechanism chassis

Fig. 14.

6) Move the TG-9 arm assembly in the direction of the arrow and insert the pin into the groove of the mechanism chassis. (See Fig. 15.).

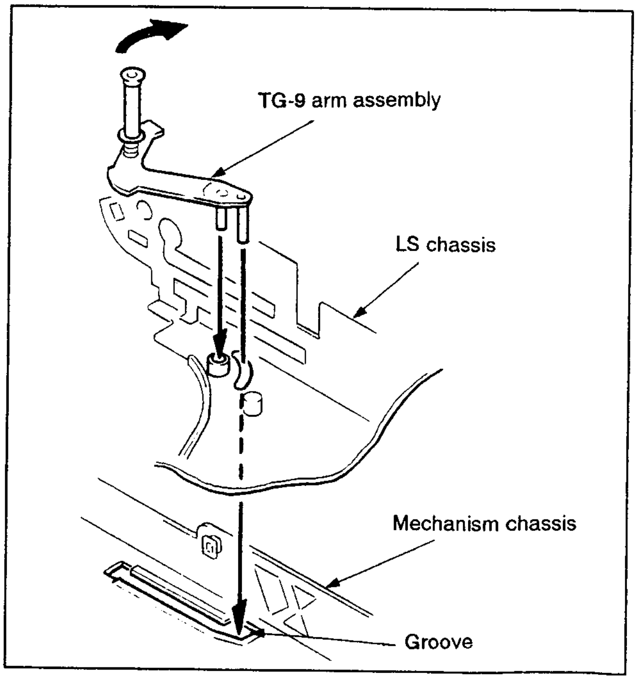

TG-9 arm assembly
LS chassis
Mechanism chassis
Groove

Fig. 15.

7) Move the pinch arm assembly in the direction of the arrow and insert the pin into the right side of the cam of the mechanism chassis. (See Fig. 16.).

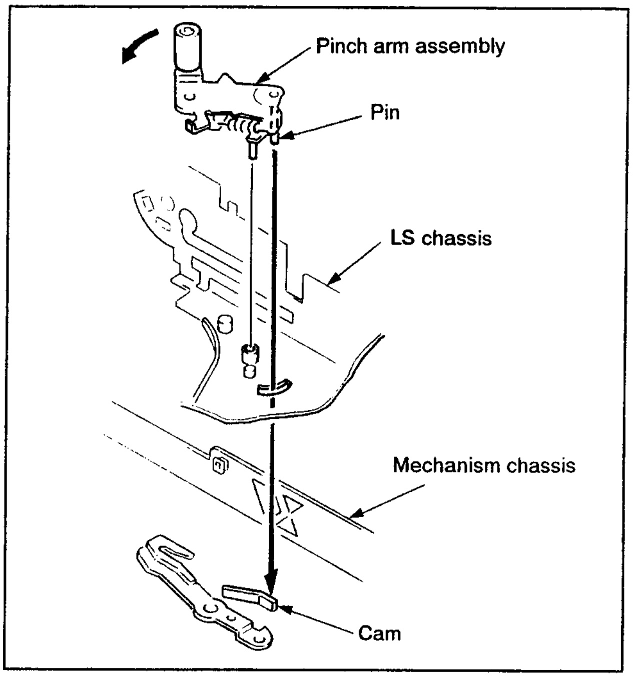

Pinch arm assembly
Pin
LS chassis
Mechanism chassis
Cam

Fig. 16.

8) While carrying out the above, adjust the guide shaft of the mechanism chassis to the notch of the LS chassis and insert it. (See Fig. 17.).

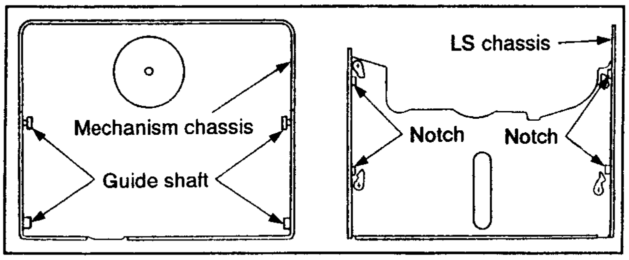

Mechanism chassis
Guide shaft
LS chassis
Notch
Notch

Fig. 17.

9) Rotate the four LS retainers in the Ⓓ direction shown in Fig. B.

10) Adjust the projection of the holder base to the holes of the FP-690 flexible board, and attach the flexible retainer. (See Fig. 18.).

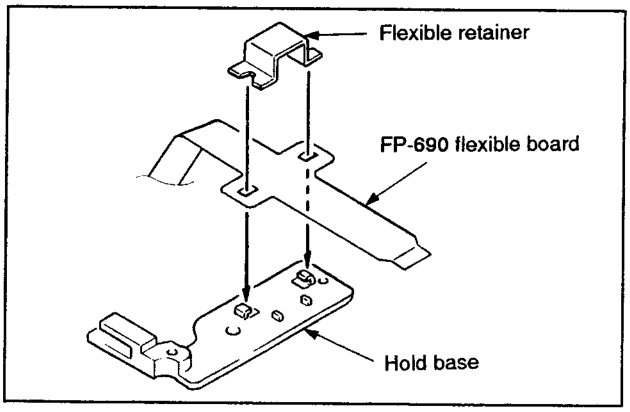

Flexible retainer
FP-690 flexible board
Hold base

Fig. 18.

11) Set the USE mode.

12) Attach the gooseneck gear assembly ② and tighten with the lock washer ①.

13) Refer to 3-1 and attach the retainer assembly.

14) Refer to 1-1 and attach the cassette compartment holder assembly.

Note: Using the mode selector Ⅱ (Ref No. J-14), check that loading and unloading are carried out smoothly.

3-7. PINCH ARM ASSEMBLY (See Fig. 19.)

1. Removing

1) The cassette compartment holder assembly need not be removed for this procedure but set the LS chassis to the approximate center of the LS mortion.
(Refer to 1-1 and remove the cassette compartment holder assembly.)
2) Remove the tension coil spring ③.
3) Remove the screw (M1.4×2.5) ①.
4) Remove the TG-9 arm retainer ②.
5) Remove the pinch arm assembly ④.

2. Attaching

1) As shown in Fig. A, apply more than 1/3 but less than 1/2 of a drop of oil to the hole of the boss ⑤.
2) Insert the rotation center shaft of the pinch arm assembly ④ into the hole of the boss ⑤ and the pin ⑥ into the long hole.
3) Attach the TG-9 arm retainer ② and tighten the screw (M1.4×2.5) ①.
Note: If the TG-9 arm assembly is raised, lower it first before attaching.
4) Attach the tension coil spring ③.
5) Refer to 1-1 and attach the cassette compartment holder assembly.

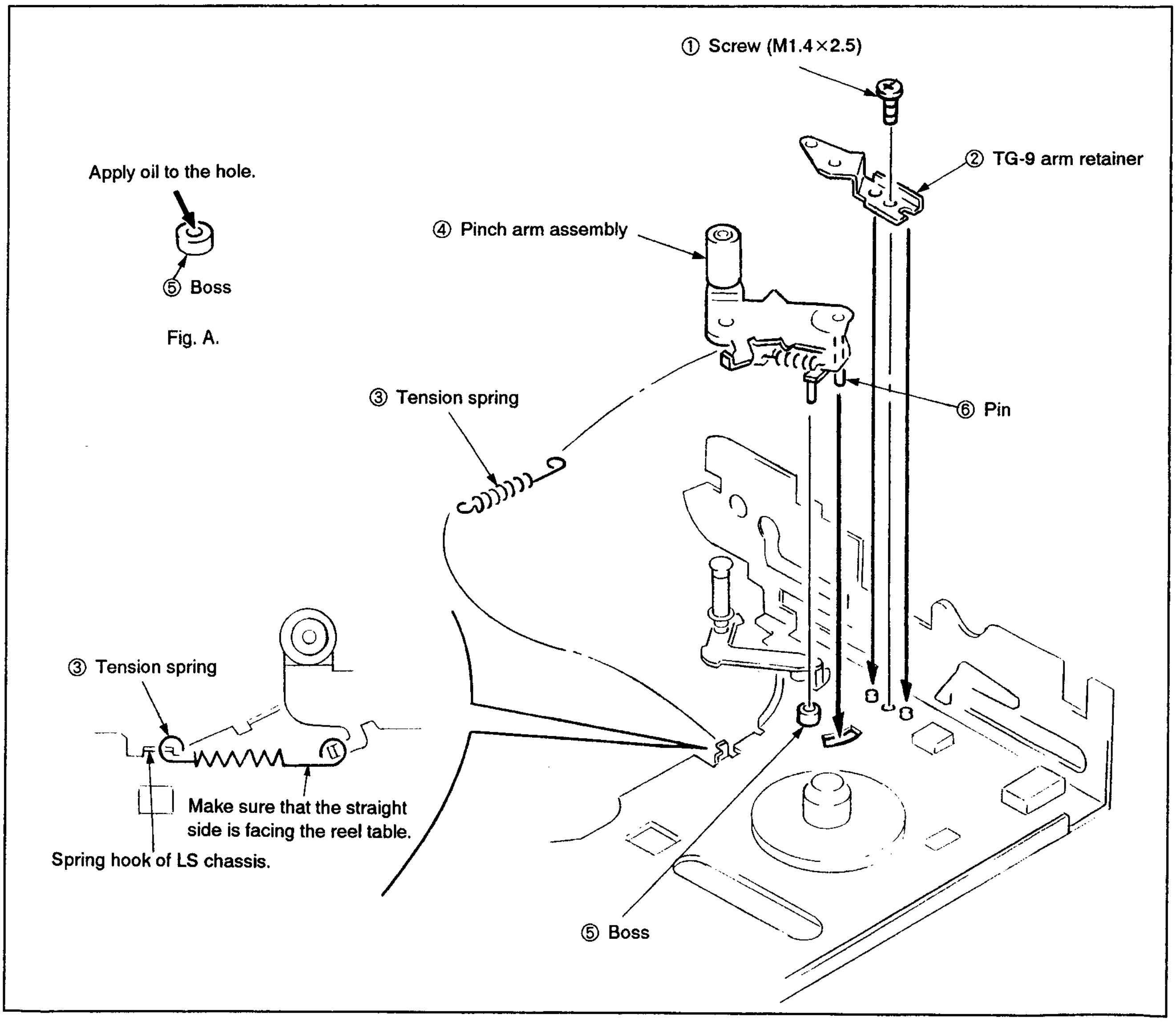

① Screw (M1.4×2.5)
② TG-9 arm retainer
Apply oil to the hole.
④ Pinch arm assembly
⑤ Boss
Fig. A.
③ Tension spring
⑥ Pin
③ Tension spring
Make sure that the straight side is facing the reel table.
Spring hook of LS chassis.
⑤ Boss

Fig. 19.

3-8. TG-9 ARM ASSEMBLY (See Fig. 20.)

1. Removing

1) The cassette compartment holder assembly need not be removed for this procedure but set the LS chassis to the approximate center of the LS mortion.
   (Refer to 1-1 and remove the cassette compartment holder assembly.)
2) Refer to "3-7. PINCH ARM ASSEMBLY" and remove the TG-9 arm retainer.
3) Remove the TG-9 arm assembly ①.

2. Attaching

1) As shown in Fig. A, apply more than 1/3 but less than 1/2 of a drop of oil to the hole of the boss ⑤.
2) As shown in Fig. B, place the longer arm of the torsion coil spring ② so that it comes to the outside (bent side of the LS chassis) of the pinch arm boss ③.
   Next, hook the shorter arm (round side) of the torsion coil spring ② to the pin ④ of the TG-9 arm assembly ①, rotate it in the direction of the arrow. Insert the pin ④ of the TG-9 arm assembly ① into the hole of the LS chassis as shown in Fig. B.
3) Refer to "3-7. PINCH ARM ASSEMBLY" and attach the TG-9 arm retainer.

Note: If the pinch arm assembly is raised, lower it first before attaching.

4) Refer to 1-1 and attach the cassette compartment holder assembly.

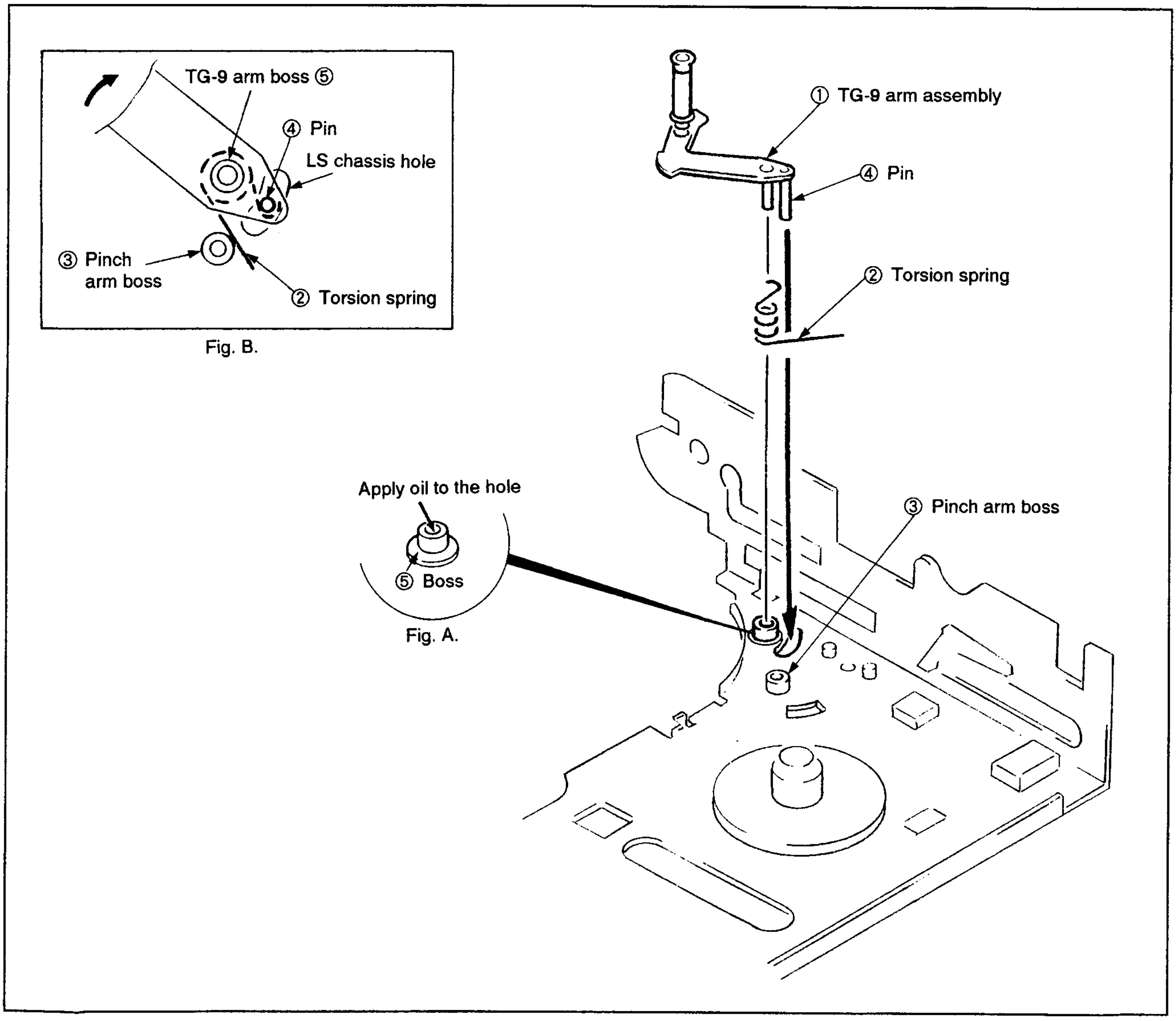

TG-9 arm boss ⑤
④ Pin
LS chassis hole
③ Pinch arm boss
② Torsion spring
Apply oil to the hole
⑤ Boss
① TG-9 arm assembly
④ Pin
② Torsion spring
③ Pinch arm boss

Fig. B.

Fig. A.

Fig. 20.

3-9. TG-1 ARM ASSEMBLY (See Fig. 21.)

1. Removing

1) Refer to 1-1 and remove the cassette compartment holder assembly.
2) Refer to 3-6 and remove the LS chassis assembly.
3) Refer to "3-2. S REEL TABLE ASSEMBLY" and remove the adjusting block and the string from the groove of the S reel table.

Note: Attach and remove the string because its shape changes easily.

4) Remove the tension coil spring ①.
5) Rotate the TG-1 arm assembly ② until the position shown in the Fig. B and pull it put upwards.

2. Attaching

1) As shown in Fig. A, apply more than 1/3 but less than 1/2 of a drop of oil to the hole of the boss ③.
2) Insert the TG-1 shaft ④ into the LS chassis boss ③ at the position shown in the Fig. B and rotate it in the Ⓑ direction as shown in the Fig. B.
3) Attach the tension coil spring ①.
4) Refer to the "3-2. S REEL TABLE ASSEMBLY" and insert the string into the groove of the S reel table and attach the adjusting block and LS chassis.
5) Refer to 3-6 and attach the LS chassis assembly.
6) Refer to 1-1 and attach the cassette compartment holder assembly.

Note: Refer to 3-21 and carry out the tension regulator position adjustment.

Note: Refer to 3-22 and carry out the FWD back tension adjustment.

Note: Do not touch the tape guides and strings.

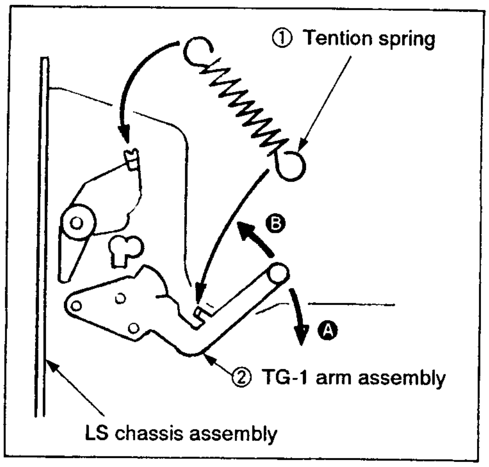


Fig. B.

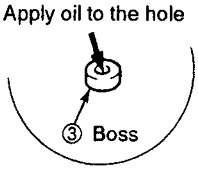


Fig. A.

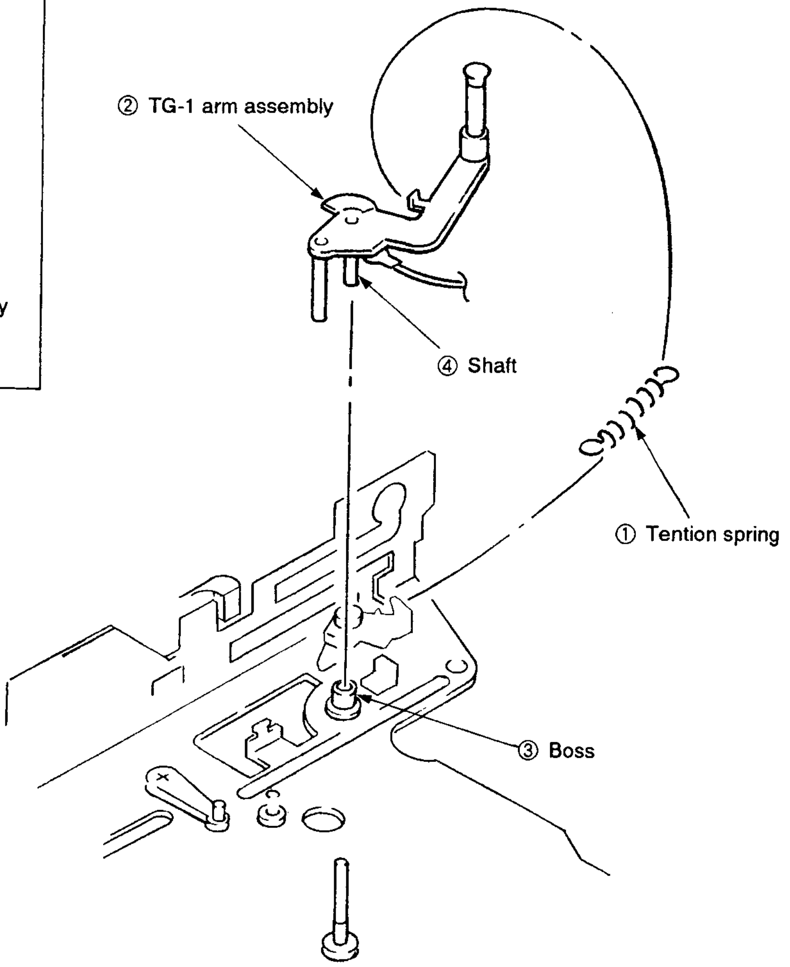


Fig. 21.

3-10. T RATCHET (See Fig. 22.)

1. Removing

1) Refer to 3-3. and remove the T reel table assembly.
2) Pull out the T ratchet ① from the boss.

2. Attaching

1) Attach the T ratchet ① so that it goes below the LS chassis and insert the pin between the forks of the T ratchet release arm ② . Insert the LS chassis boss into the hole of the rotation center.
2) Refer to 3-3. and attach the T reel table, retainer assembly, and cassette compartment holder assembly.

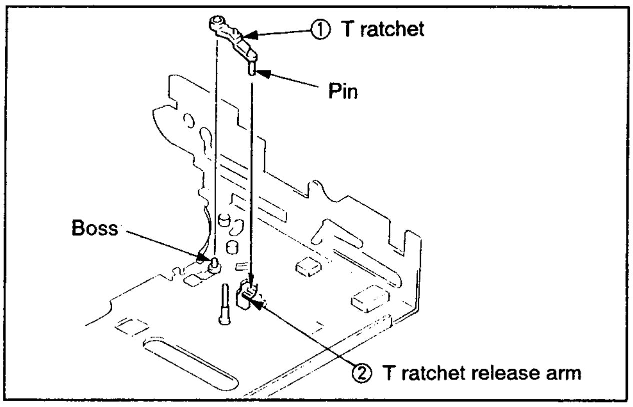

① T ratchet
Pin
Boss
② T ratchet release arm

Fig. 22.

3-11. COASTER S ASSEMBLY, COASTER T ASSEMBLY, S RAIL, T RAIL, S ARM ASSEMBLY, T ARM ASSEMBLY

1. Removing (See Fig. 23. to 26.)

1) Refer to 3-6. and remove the LS chassis assembly.
2) Remove the coaster (S) and (T) assemblies from the rail. (Fig. 23.)

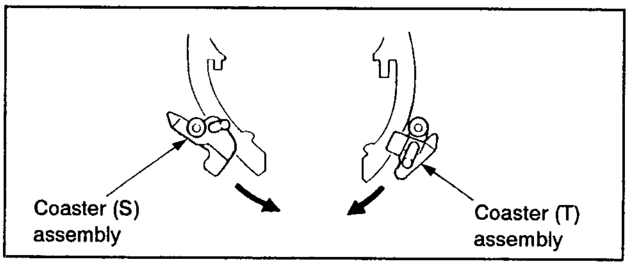

Coaster (S) assembly
Coaster (T) assembly

Fig. 23.

3) While holding the coaster (S) and (T) assemblies, rotate it in the arrow direction and remove the coaster (S) and (T) assemblies. (Fig. 24.)

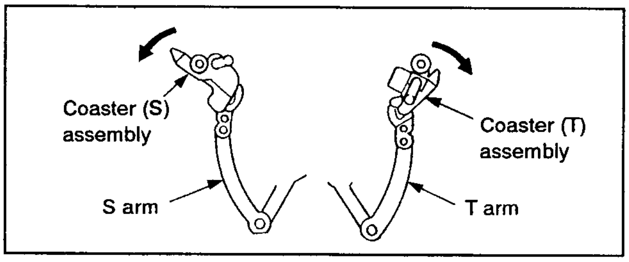

Coaster (S) assembly
S arm
Coaster (T) assembly
T arm

Fig. 24.

4) Remove one screw of the S and T rails, rotate them in the direction of the arrow. The snap fitting will come off. (Fig. 25.)

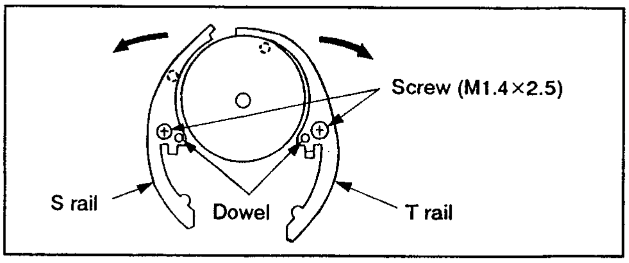

Screw (M1.4×2.5)
S rail
Dowel
T rail

Fig. 25.

5) Remove the washer and remove the T and S arm assemblies. (Fig. 26.)

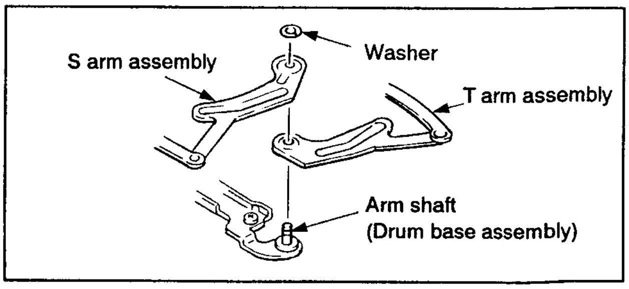

S arm assembly
Washer
T arm assembly
Arm shaft
(Drum base assembly)

Fig. 26.

2. Attaching (See Fig. 25. to 29.)

1) Insert the T arm assembly and then the S arm assembly into the arm shaft of the drum base assembly and tighten the washer. (Fig. 26.)
2) Refer to Fig. 25. and adjust the dowel of drum base assembly to the hole of the rail and rotate in the opposite direction of removal and attach it by snap fitting as shown in the Fig. 27.

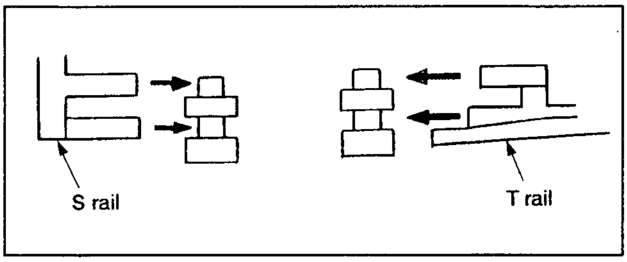

S rail
T rail

Fig. 27.

3) Adjust the coaster shaft to the hole of the S and T arm assemblies and insert them, and rotate it slightly so that they wait come off. (Fig. 28.)

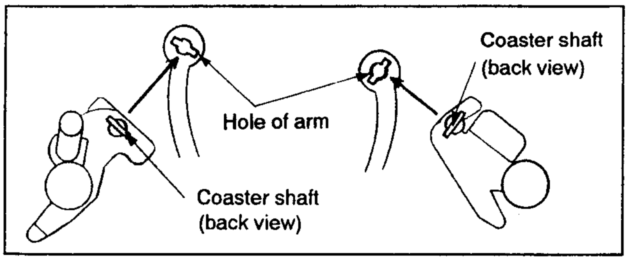

Coaster shaft
(back view)
Hole of arm
Coaster shaft
(back view)

Fig. 28.

4) Insert the coaster (S) and (T) assemblies into the rail. (Fig. 29.)

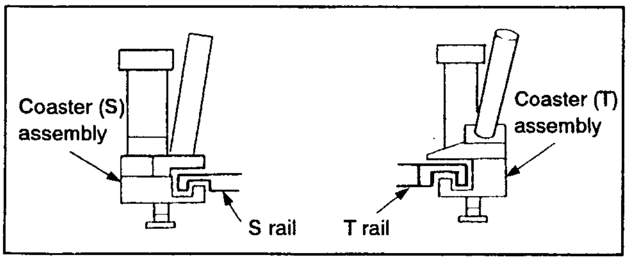

Coaster (S) assembly
Coaster (T) assembly
S rail
T rail

Fig. 29.

5) Refer to 3-6. and attach the LS chassis assembly.

3-12. PINCH RELEASE ARM ASSEMBLY (See Fig. 30.)

1. Removing

1) Refer to 1-1 and remove the cassette compartment holder assembly.
2) Refer to 3-6 and remove the LS chassis assembly.
3) Remove the lock washers ① and remove the pinch release arm assembly ②.

2. Attaching

1) Apply 1/2 of a drop of grease (Kantokasei furoiru SG-941) to the hole of the M slider ③ and the pinch release arm shaft ④ of the mechanism chassis assembly. (Fig. A, B)
2) Adjust the torsion coil spring hook to the inside of the outsert cam ⑤ of the mechanism chassis assembly and insert the boss of the pinch release arm ② into the pinch release arm shaft slightly. Then rotate the pinch release arm assembly ② in the counterclockwise direction and while loosening the torsion coil spring, push it down until the pin of the pinch release arm ② goes into the hole of the M slider ③.
3) Attach the lock washer ①.
   Note: Lock washer ① be sure that is inserted completely into the groove of the shaft.
4) Refer to 3-6 and attach the LS chassis assembly.
5) Refer to 1-1 and attach the cassette compartment holder assembly.

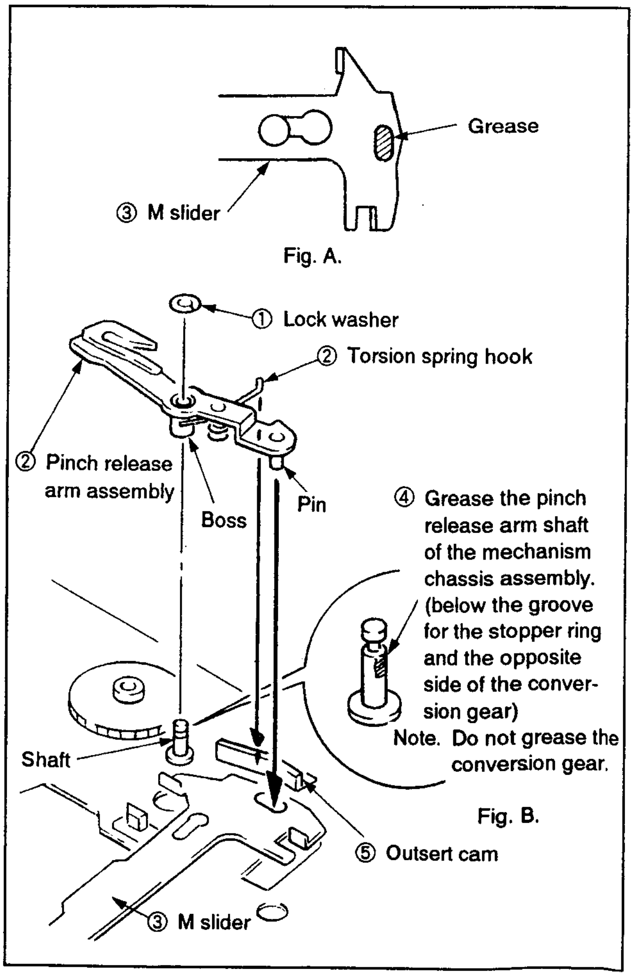

Grease
③ M slider
① Lock washer
② Torsion spring hook
② Pinch release arm assembly
Boss
Pin
Shaft
⑤ Outsert cam
③ M slider

Fig. A.

④ Grease the pinch release arm shaft of the mechanism chassis assembly. (below the groove for the stopper ring and the opposite side of the conversion gear)
Note. Do not grease the conversion gear.

Fig. B.

Fig. 30.

3-13. M SLIDER (See Fig. 31.)

1. Removing

1) Referring to 1-1, remove the cassette compartment holder assembly.
2) Referring to 3-6, remove the LS chassis assembly.
3) Remove the screw ⑩.
4) Remove the gear retainer ①.
5) Remove gear D ②.
6) Remove the E ring ⑪.
7) Remove the LS gear ③.
8) Remove the relay pulley ⑤ and relay belt ⑥.
9) Remove the two washers ⑫ and ⑬.
10) Remove the EJ arm ⑦.
11) Remove the pinch release arm assembly ⑨.
12) Remove the M slider ④.

2. Attaching

1) Insert the M slider ④ into the two shafts and adjust the positioning hole 🅒.

Note: Grease the three parts (shown in Fig. A) of the M slider.

2) Insert the pinch release arm assembly ⑨ into the shaft.

Note: The pinch release arm pin should be in the hole of the M slider as shown in Fig. A.

3) Insert the EJ arm ⑦ into the shaft.

Note: The EJ arm pin should be in the notch of the M slider as shown in Fig. A.

4) Attach the two washers ⑫ and ⑬.
5) Attach the relay pulley ⑤ and relay belt ⑥.

Note: Hook the relay belt ⑥ between the relay pulley ⑤ and conversion gear ⑧.

6) Attach the LS gear ③ (adjust the positioning hole 🅑)
7) Attach the E ring ⑪.
8) Attach gear D ②.
9) Check that the positioning holes 🅐, 🅑, 🅒 are at the correct positions.
10) Attach the gear retainer ①.
11) Fix the screw ⑩.
12) Refer to 3-6 and attach the LS chassis assembly.
13) Refer to 1-1 and attach the cassette compartment holder assembly.

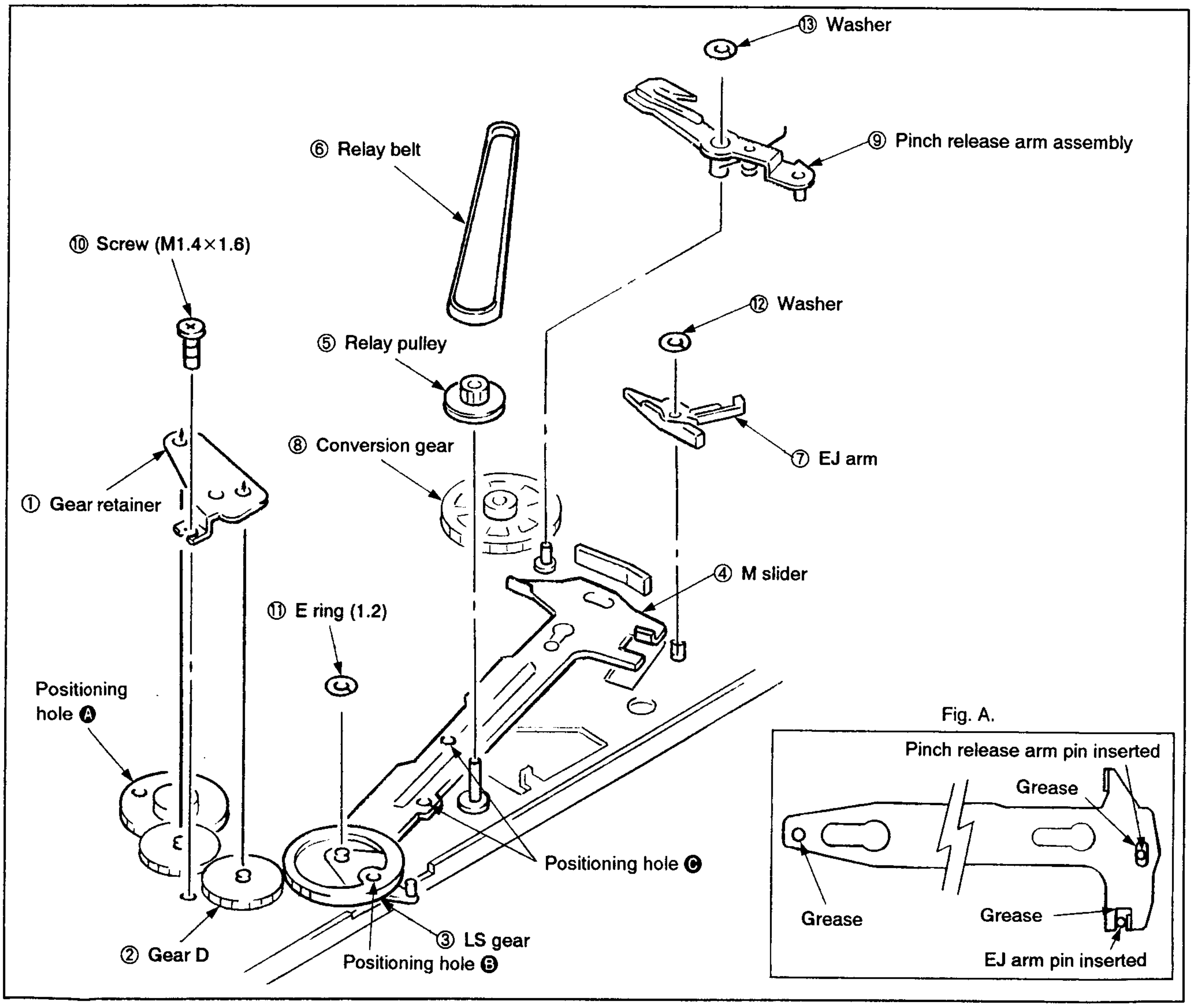

⑬ Washer
⑨ Pinch release arm assembly
⑥ Relay belt
⑩ Screw (M1.4×1.6)
⑫ Washer
⑤ Relay pulley
⑧ Conversion gear
⑦ EJ arm
① Gear retainer
④ M slider
⑪ E ring (1.2)
Positioning hole 🅐
Positioning hole 🅒
③ LS gear
② Gear D
Positioning hole 🅑
Fig. A.
Pinch release arm pin inserted
Grease
Grease
Grease
EJ arm pin inserted

Fig. 31.

3-14. LOADING MOTOR ASSEMBLY, TG-3 ASSEMBLY (See Fig. 32.)

1. Removing

1) Refer to 1-1 and remove the cassette compartment holder assembly.
2) Unskate the LS chassis slightly.
3) Remove the two screws ①.
4) Remove the loading motor assembly ②.
5) Remove the two screws ③ and remove the TG-3 base assembly ④.

2. Attaching

1) Adjust the hole of TG-3 base assembly ④ to the boss of the mechanism chassis, and tighten the two screws ③ with a 0.7 kg • cm tightening torque.
2) Attach the loading motor assembly ②.
3) Fix the two screws ①.
4) Refer to 1-1 and attach the cassette compartment holder assembly.

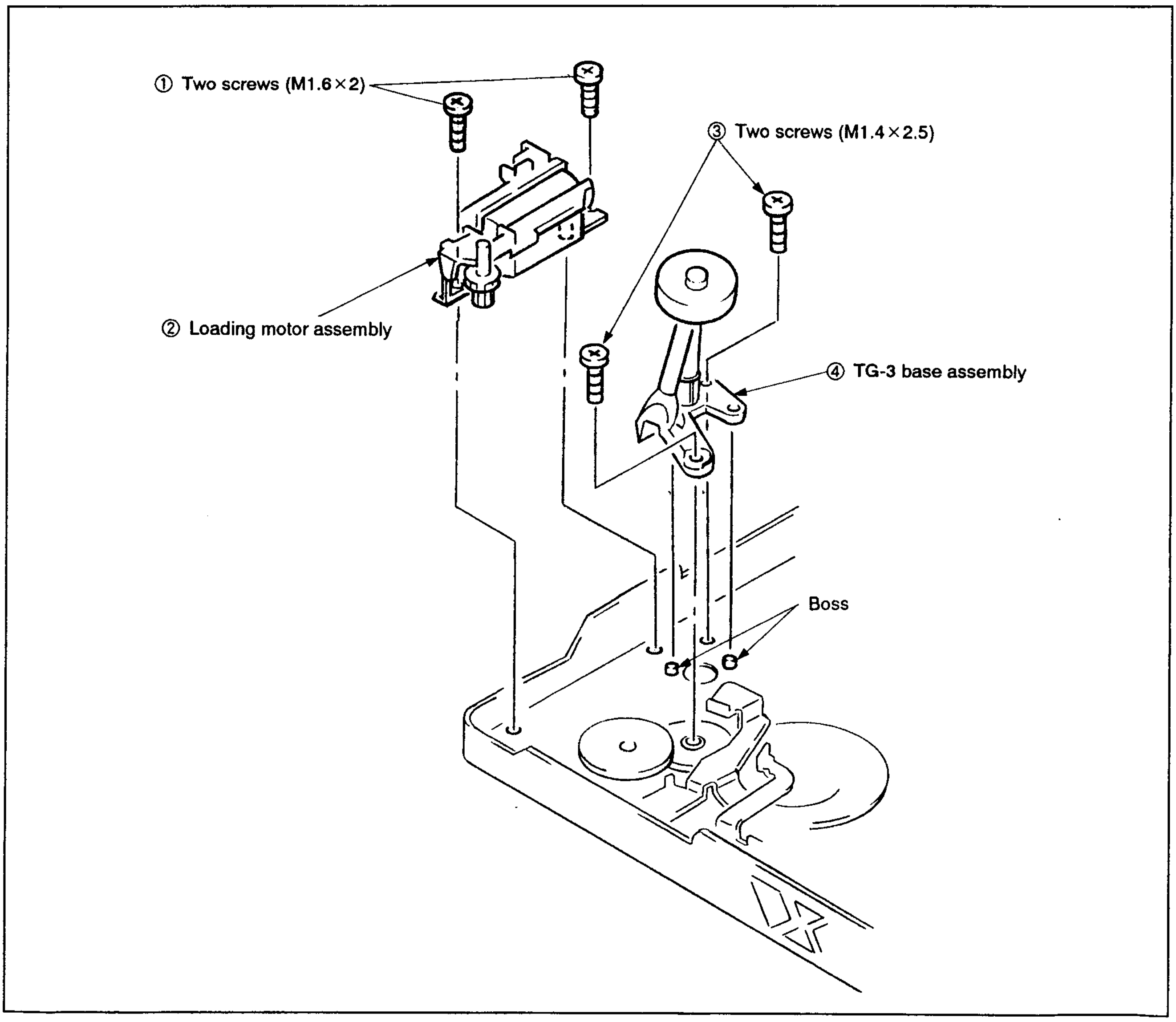

① Two screws (M1.6×2)
③ Two screws (M1.4×2.5)
② Loading motor assembly
④ TG-3 base assembly
Boss

Fig. 32.

3-15. CAPSTAN MOTOR ASSEMBLY (See Fig. 33.)

1. Removing

1) Refer to 1-1 and remove the cassette compartment holder assembly. (It need not be removed when working in the EJECT mode because it will be lifted up in this mode.)
2) Refer to 1-2. and remove the HP arm block assembly.
3) Set the LS chassis from USE to EJECT.
4) Disconnect the flexible cable ③ from the connector ② of the capstan motor assembly ①. (Fig. A.)
5) Remove the two screws ④ and the hexagonal nut ⑤.

Note: Before removing the hexagonal nut ⑤, mark it and the mechanism chassis as shown in Fig. C. (To attach the capstan motor assembly ① at approximately the same height as before it was removed, when attaching the hexagonal nut ⑤.)

6) Lift up the capstan motor assembly ① vertically and remove it.

2. Attaching

1) Adjust so that the gear of the conversion gear assembly ⑥ and the gear of the capstan motor assembly ① engage. Then insert CM guide shaft A ⑦ into the hole of the capstan motor assembly ①.
   Be careful not to scratch the gears. (Fig. B.)
2) Tighten the two screws ④ with a 0.7 kgf • cm tightening torque.
3) Screw the hexagonal nut ⑤ onto CM guide shaft A ⑦ until the third ring of the shaft is above it, and adjust the mark on the nut to that on the mechanism chassis.
4) After attaching the two screws ④ and hexagonal nut ⑤, check that the capstan motor assembly ① is attached parallel to the bottom of the mechanism chassis.
5) Insert the capstan flexible board ③ into the connector ②. Push the reinforce plate ⑧ directly. (Fig. A.)

Note: After attaching, attach each board, load the tape, and carry out the CUE and REV checks. Check that the tape does not become slack while running.

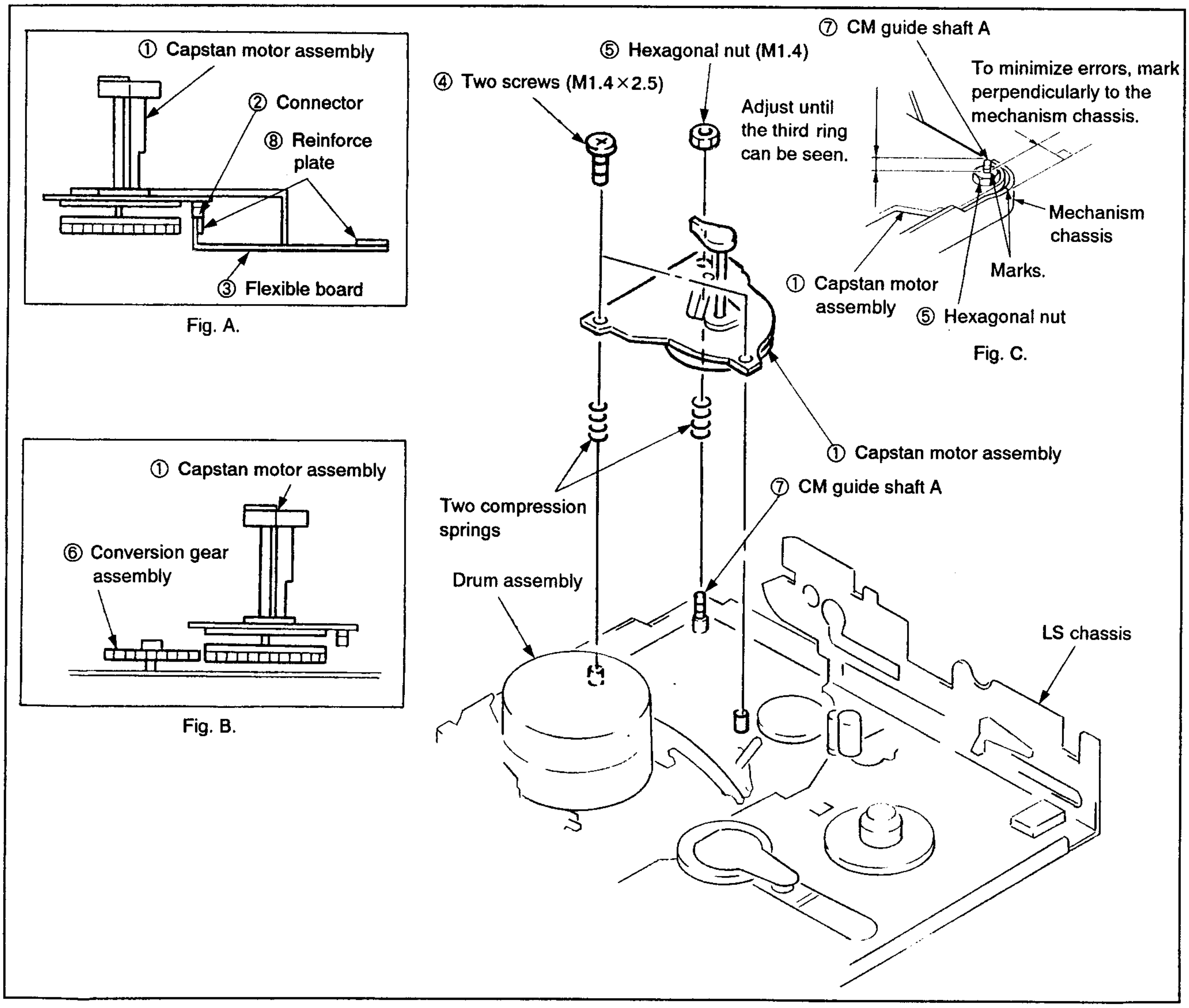

① Capstan motor assembly
② Connector
⑧ Reinforce plate
③ Flexible board
① Capstan motor assembly
⑥ Conversion gear assembly
⑦ CM guide shaft A
⑤ Hexagonal nut (M1.4)
④ Two screws (M1.4×2.5)
Adjust until the third ring can be seen.
To minimize errors, mark perpendicularly to the mechanism chassis.
Mechanism chassis
Marks.
① Capstan motor assembly
⑤ Hexagonal nut
① Capstan motor assembly
⑦ CM guide shaft A
Two compression springs
Drum assembly
LS chassis

Fig. A.

Fig. B.

Fig. C.

Fig. 33.

3-16. DRUM BASE ASSEMBLY (See Fig. 34.)

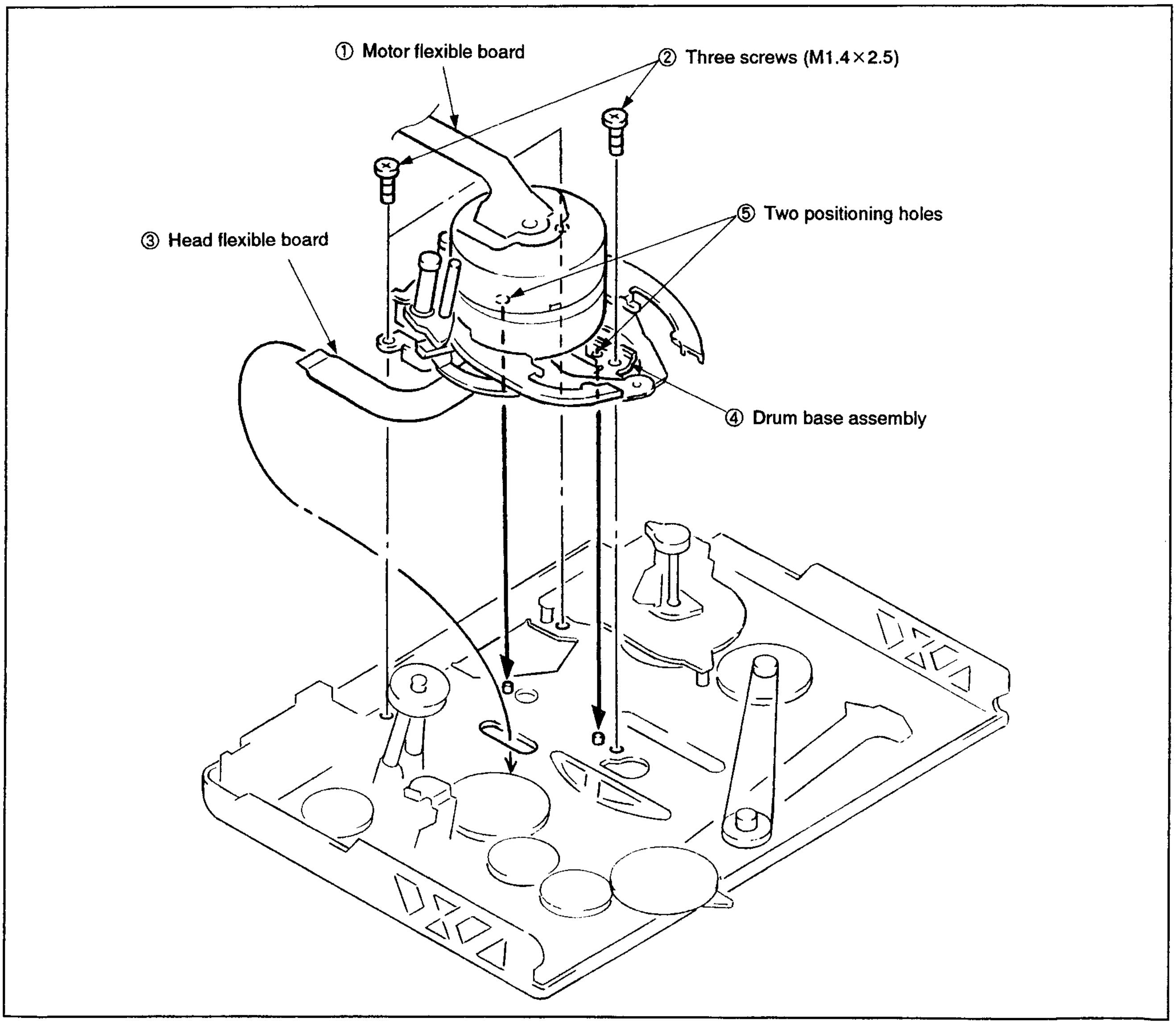
1. Removing

1) Refer to 3-6 and remove the LS chassis assembly.
2) Refer to 1-2. and remove the HP arm block assembly.
3) Remove the motor flexible board ① from the PC board.
4) Remove the three screws ②.
5) Pull out the head flexible board ③ from the hole of the mechanism chassis carefully to avoid scratching it. Then remove the drum base assembly ④.

2. Attaching

1) Insert the head flexible board ③ into the hole of the mechanism chassis and adjust the two positioning holes ⑤ of the drum base assembly ④ to the two dowels of the mechanism chassis.
2) Tighten the three screws ② with a 0.7 kgf • cm tightening torque.
3) Attach the motor flexible board ① to the PC board.
4) Refer to 1-2. and attach the HP arm block assembly.
5) Refer to 3-6 and attach the LS chassis assembly.

Note: After attaching, carry out “4. TAPE PATH ADJUSTMENT”.



① Motor flexible board
② Three screws (M1.4×2.5)
⑤ Two positioning holes
③ Head flexible board
④ Drum base assembly

Fig. 34.

3-17. DRUM ASSEMBLY (See Fig. 35.)

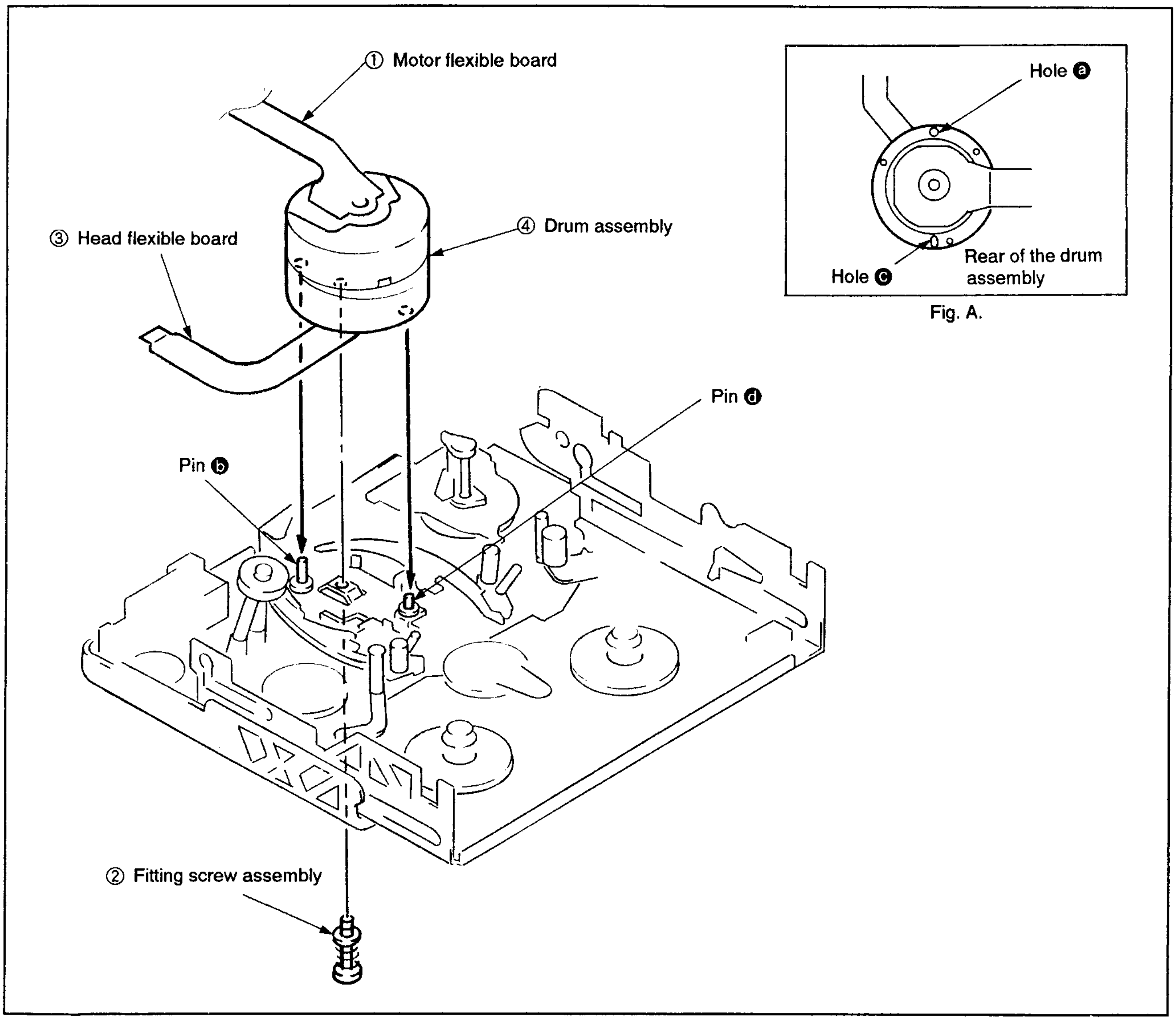
1. Removing

1) Unload until the $\boxed{\text{USE}}$ mode is set.
2) Refer to 1-2. and remove the HP arm block assembly.
3) Remove the motor flexible board ① from the PC board.
4) Remove one fitting screw assembly ② from the back of the mechanism chassis.
5) Pull out the head flexible board ③ from the hole of the mechanism chassis and drum base assembly carefully to avoid scratching it. Then remove the drum assembly ④.

2. Attaching

1) Insert the head flexible board ③ into the hole of the mechanism chassis. Then as specified in Fig. A, adjust pin ⓑ to hole ⓐ and pin ⓓ to hole ⓒ.
2) Tighten the fitting screw assembly ② at 0.5 kg • cm.
3) Attach the motor flexible board ① to the PC board.
4) Refer to 1-2. and attach the HP arm block assembly.

Note: After attaching, carry out "4. TAPE PATH ADJUSTMENT".



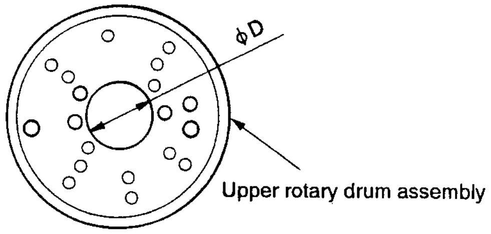
① Motor flexible board
③ Head flexible board
④ Drum assembly
Pin ⓓ
Pin ⓑ
② Fitting screw assembly
Hole ⓐ
Hole ⓒ
Rear of the drum assembly
Fig. A.

Fig. 35.

3-18. REPLACEMENT OF UPPER ROTARY DRUM ASSEMBLY (See Fig. 36. and 37.)

- There are two types of upper rotary drum assembly depending on the color mark. (See Fig. A in Fig. 37.)

A-7049-536-A	Upper rotary drum assembly DGR-76-R-(1)
A-7049-534-A	Upper rotary drum assembly DGR-76-R-(2)



Upper drums for manufacturing

RANK	ϕ D	RARK	
A	$\phi 8^{+0.0015}_{+0.001}$	Green	-01
B	$\phi 8^{+0.001}_{+0.0005}$	Green, Red	
C	$\phi 8^{+0.0005}_{0}$	Black	
D	$\phi 8^{0}_{-0.0005}$	Black, Red	
E	$\phi 8^{-0.0005}_{-0.001}$	Red	-11
F	$\phi 8^{-0.001}_{-0.0015}$	Red, Red	
G	$\phi 8^{-0.0015}_{-0.002}$	Blue	
H	$\phi 8^{-0.002}_{-0.0025}$	Blue, Red	

➡

Upper drum for repairing

SUFFIX	ϕ D measurement	REMARKS	DRUM
-01	$\phi 8^{+0.001}_{+0.0005}$	Green, Red	DGR-76-R-(1)
	$\phi 8^{+0.0005}_{0}$	Black	
-11	$\phi 8^{-0.001}_{-0.0015}$	Red, Red	DGR-76-R-(2)
	$\phi 8^{-0.0015}_{-0.002}$	Blue	

1. Removing

1) Refer to 3-17 and remove the drum assembly.
2) Remove the two screws ①. (See Fig. 36.)
3) Hold the exit (base) of the guide protector ② and lift it up diagonally. In this state, hold the circumference of the stator assembly ③ and remove it. (See Fig. 36.)

Note: The flexible board and guide protector ② are only glued in place and therefore come off easily.

4) As shown in Fig. A, hook the rotor earth spring ④ onto the spring hook. (See Fig. 36.)
5) Using a drum screwdriver (Ref No. J-11), remove the two hexagonal socket bolts ⑤ , and remove the rotary upper drum assembly ⑥. (See Fig. 37.)
6) Using the drum screwdriver (Ref No. J-11), remove the two hexagonal socket bolts ⑦, and remove the rotor assembly ⑧ . (See Fig. A in Fig. 37.)

2. Attaching

1) Clean the flange surface ⑩ and the surface of the rotary upper drum assembly ⑥ that will come in contact with it, and check that there are no dusts, scratches, etc. (See Fig. 37.)
2) Adjust the direction of the upper drum so that the head contact mold pin ⑪ fits the reference hole of the rotary upper drum assembly ⑥ and press in lightly. (See Fig. 37.)

Note: Look at the space between the upper drum and lower drum and check that it is about 0.05 mm.

3) Using a drum screwdriver (Ref No. J-11), tighten the two hexagonal socket bolts ⑤ (800 g • cm), and rotate the drum with your fingers and make sure that there are no problems. (See Fig. 37.)
4) Adjust pin ⑨ of the rotor assembly ⑧ to the hole of the rotary upper drum assembly ⑥ . Using a drum screwdriver (Ref No. J-11), tighten the two hexagonal socket bolts ⑦ (800 g • cm). (See Fig. A in Fig. 37.)
5) Remove the rotor earth spring ④ from the spring hook. Using a pair of tweezers, etc., hook it onto the groove of the stator boss ⑫. (See Fig. B in Fig. 37.)

Note: Make sure that the rotor earth spring ④ does not go between the flange and stator.

6) Hold the circumference of the stator assembly ③, place it on the inner step of the upper drum and insert the other side slowly. (See Fig. B in Fig. 36.)
7) Tighten the two screws ①. (500 g • cm). (See Fig. 36.)
8) Rotate the upper drum with your fingers and check that it rotates smoothly.
9) Refer to 3-17 and attach the drum assembly.

Note: After attaching, carry out "4. TAPE PATH ADJUSTMENT".

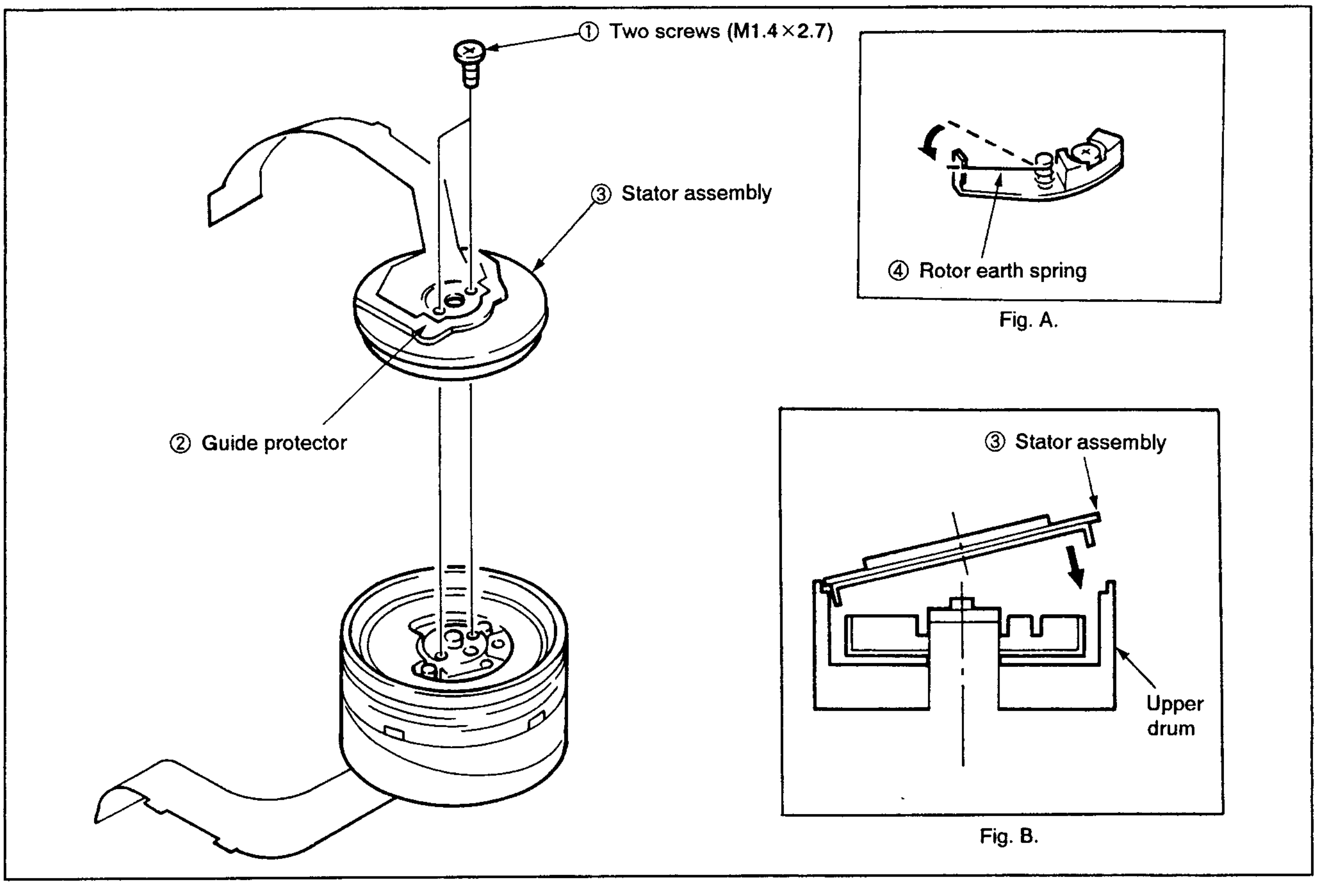

① Two screws (M1.4×2.7)
③ Stator assembly
② Guide protector
④ Rotor earth spring
③ Stator assembly
Upper drum

Fig. A.

Fig. B.

Fig. 36.

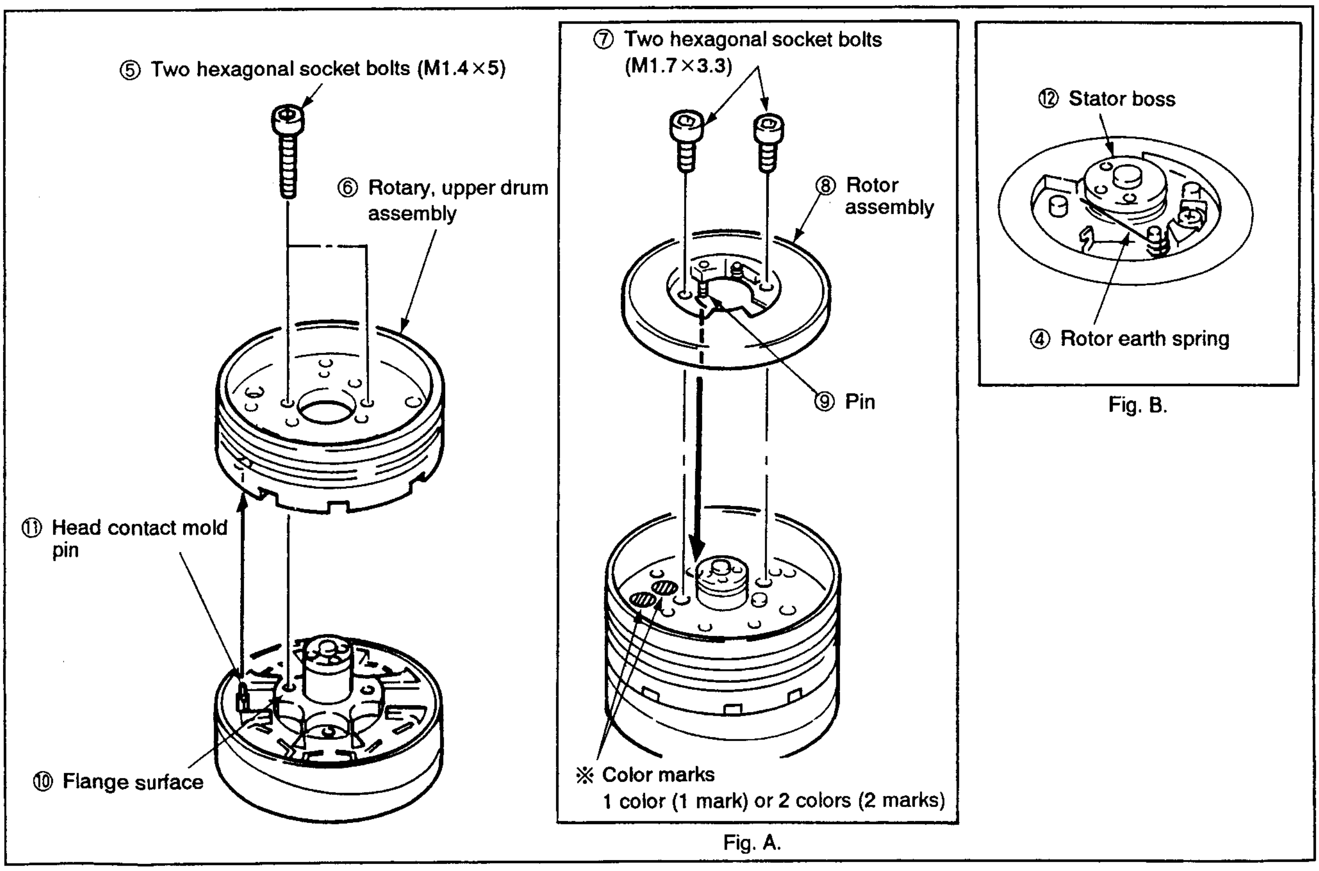

⑤ Two hexagonal socket bolts (M1.4×5)
⑥ Rotary, upper drum assembly
⑪ Head contact mold pin
⑩ Flange surface
⑦ Two hexagonal socket bolts (M1.7×3.3)
⑧ Rotor assembly
⑨ Pin
※ Color marks
1 color (1 mark) or 2 colors (2 marks)
⑫ Stator boss
④ Rotor earth spring

Fig. A.

Fig. B.

Fig. 37.

3-19. REEL TABLE HEIGHT CHECK (See Fig. 38.)

1. Removing

1) Refer to 1-1 and remove the cassette compartment holder assembly.
2) Refer to 3-1 and remove the retainer assembly.

2. Checking

1) Using a pair of slide calipers, etc., check that the distances from the LS chassis ① to the S reel table reel resting surface ② and to the T reel table reel resting surface ③ are both 3.9 ± 0.2 mm.

3. Attaching

1) Refer to 3-1 and attach the retainer assembly.
5) Refer to 1-1 and attach the cassette compartment holder assembly.

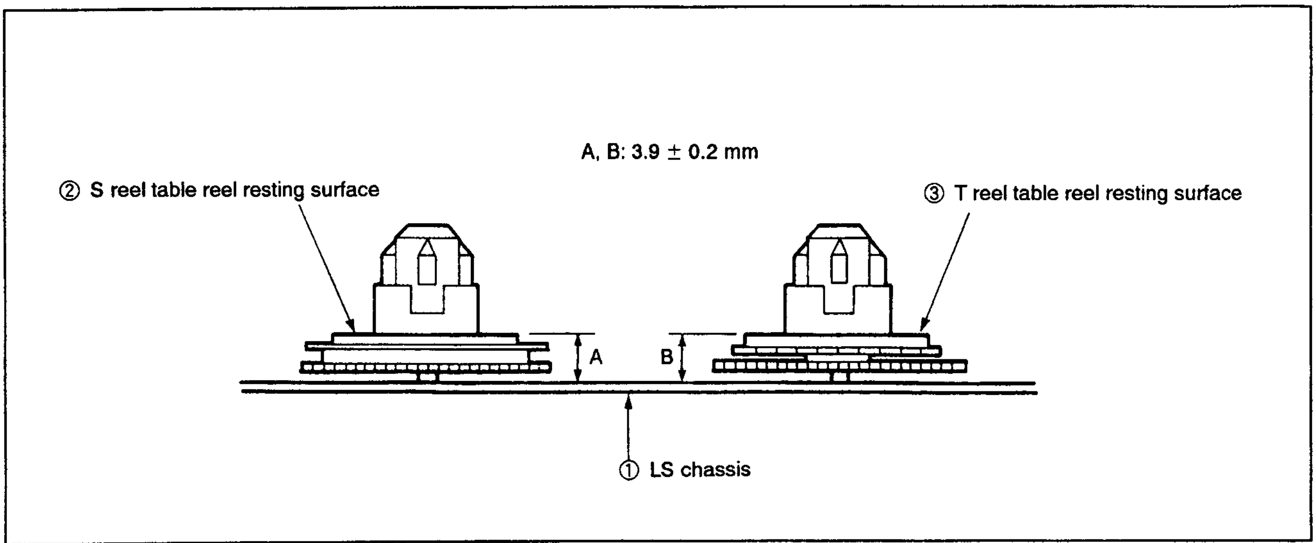

A, B: 3.9 ± 0.2 mm
② S reel table reel resting surface
③ T reel table reel resting surface
A
B
① LS chassis

Fig. 38.

3-20. FWD/RVS TORQUE CHECK

1) Set the FWD/RVS take-up torque cassette (Ref No. J-10.).
2) In the FWD mode, check that the torque value is 13 to 23 gf • cm for the T reel.
3) Turn ON the REC/REVIEW button and check that the torque value is 25 g • cm to 45 g • cm for the S reel.
4) If the above values are not met, replace the reel tables.

3-21. TENSION REGULATOR POSITION ADJUSTMENT (See Fig. 39.)

1. Removing

1) Refer to 1-1 and remove the cassette compartment holder assembly.
2) Refer to 3-1. and remove the ratiner assembly

2. Adjusting

1) Set the REC mode without a cassette tape.
2) Check that the distance between the internal face of the LS chassis and the TG-1 lower flange is 7.4 to 7.7 mm.
3) If the specification is not met, proceed onto step 4).
4) Loosen the screw ①.
5) If TG-1 ③ is inside the specified position, move the adjusting block ② slightly in the direction of arrow Ⓐ, if it is outside, move the adjusting block slightly in the direction of arrow Ⓑ, and secure the screw ①.

Note: Check that TG-1 can be moved in the C direction in REC mode. At this time, forward the cassette tape to the end.

3. Attaching

1) Refer to 3-1. and attach the ratiner assembly.
2) Refer to 1-1 and attach the cassette compartment holder assembly.

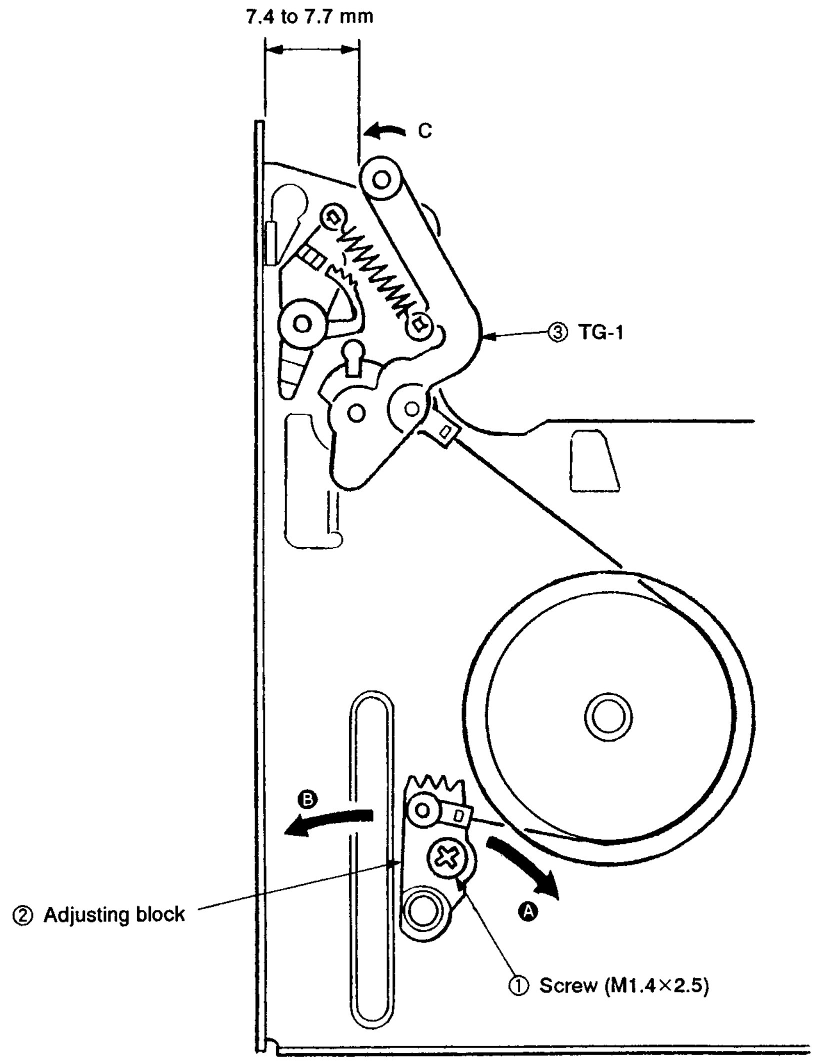


Fig. 39.

3-22. FWD BACK TENSION ADJUSTMENT (See Fig. 40.)

1. Adjusting

1) Set the torque cassette.
2) Set the REC mode and adjust the spring hook so that the reading for side S is 7 to 8.5 gf • cm.
3) If the reading is higher than the specification, while pressing the adjusting claw (ragged) of the TG-1 spring hook (1) ① in the direction of arrow Ⓐ, move the part where it engages with the claw of the TG-1 spring hook (2) ② in the direction of arrow Ⓒ.
4) If the reading is lower than the specification, while pressing part D of the TG-1 spring hook (1) ①, move the part where it engages with the claw of the TG-1 spring hook (2) ② in the direction of arrow Ⓑ.

Note: Remove the torque cassette once when moving the spring hook.

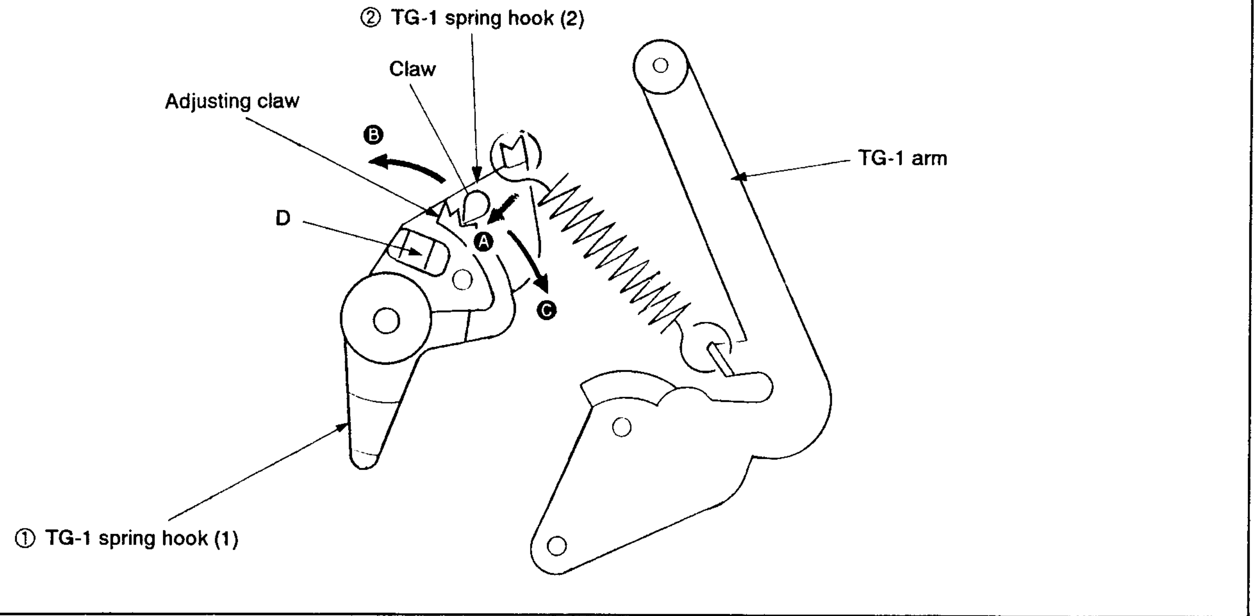


Fig. 40.

4. TAPE PATH ADJUSTMENT

The 8 mm video system uses ATF (Automatic Track Finding) which instantaneously controls a tape running speed based on 4 types of pilot signals and performs high-precision tracking.

This does away a tracking control knob and allows accurate track tracing.

On the other hand, however, the ATF system has a problem in adjusting the tape path system. That is, if head tracing is out of order a little, the ATF automatically corrects it, which means that perfect adjustment cannot be done.

Therefore, in the TK mechanism, the ATF system is forcibly operated to shift a tracking amount constantly (approx. 1/4) by setting the PATH mode with the adjusting remote controller (Ref No. J-13). So, fine tracking adjustment can be easily done.

As the PATH mode setting varies with the model, and therfore, refer to the Service Manual.

4-1. PREPARATIONS FOR ADJUSTMENT.

1) Clean the tape running surfaces (tape guide, drum, capstan, shaft, pinch roller). (See Fig. 42.)
2) Connect the adjusting remote commander and set the PATH mode (track shift mode).
   (For CCD-SC5, set the data of page 1, address 00 to 01, release the protect, and set the data of page D, address 01 to 03.)
3) Connect the oscilloscope.
4) Playback a tracking alignment tape (WR5-1N/P).
5) Check that the RF waveform is flat at the entrance and exit of the oscilloscope. (See Ⓐ in Fig. 41.)
   If not flat, adjust according to the following procedure.
   When the RF Waveform is not Flat at the Entrance and Exit. (Refer to Ⓑ and Ⓒ in Fig. 41.)
6) After adjusting, return the data changed at 2) to its original value using the adjusting remote commander.
   (For CCD-SC5, return the data of page D, address 03 to 01, press the PAUSE button of the adjusting remote commander, and return the data of page 1, address 01 to 00.

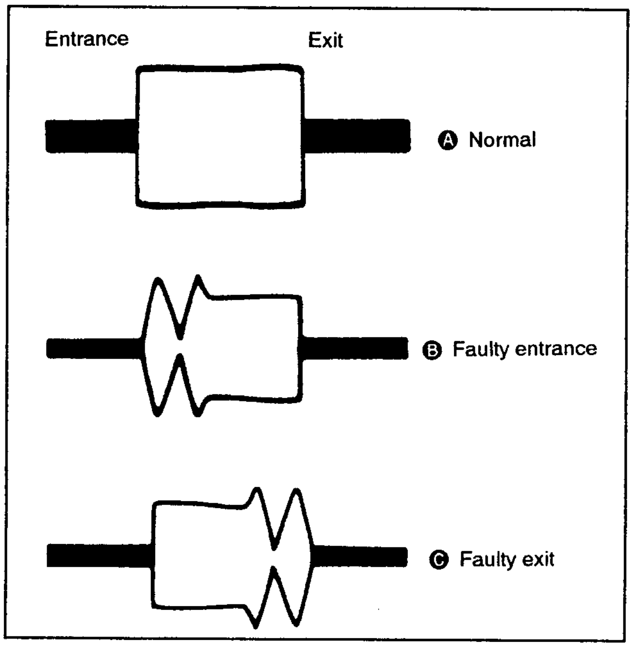


Fig. 41.

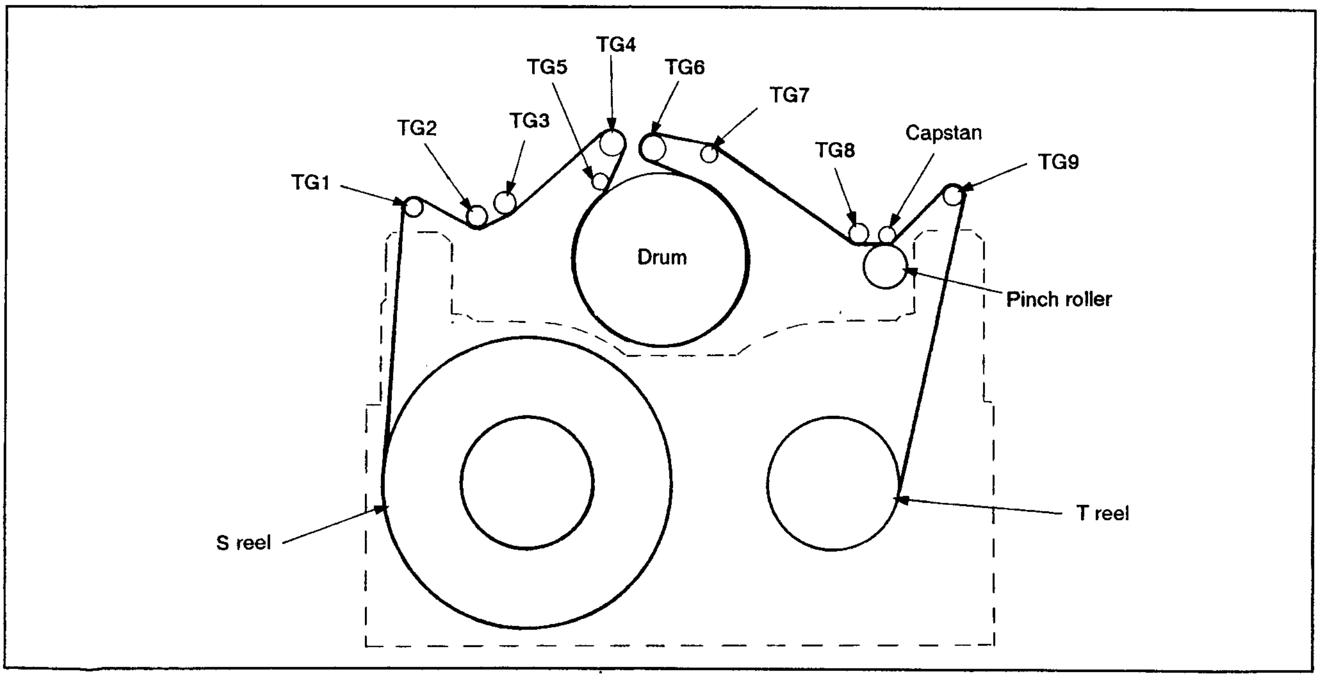


Fig. 42.

4-2. TRACKING ADJUSTMENT (See Fig. 43.)

1) Playback the tracking alignment tape.
2) Loosen the lock screw ① of the No. 4 guide (TG-4), rotate the No. 4 guide and flatten the waveform at the entrance.
3) Tighten the lock screw ① of the No. 4 guide (TG-4) and lock the No. 4 guide.
   At this time, check that the waveform does not change at the entrance.
4) Loosen the lock screw ② of the No. 6 guide (TG-6), rotate the No. 6 guide and flatten the waveform at the exit.
5) Tighten the lock screw ② of the No. 6 guide (TG-6) and lock the No. 6 guide.
   At this time, check that the waveform does not change at the exit

Note: Be careful not to loosen the lock screw too much because the guide will move easily.

The TG-4 and TG-6 gate adjusting screws need not be adjusted.

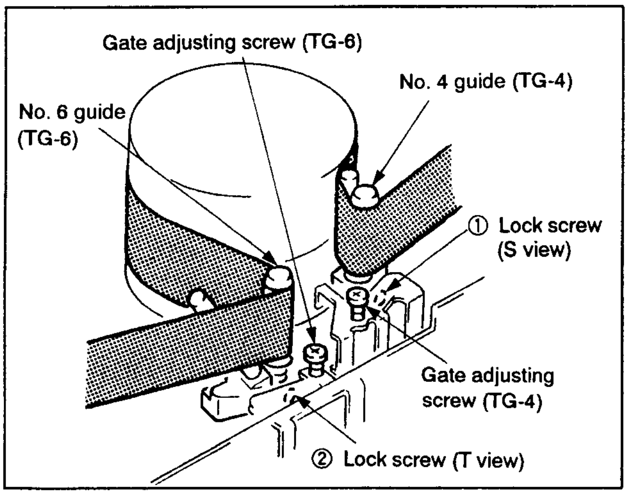


Fig. 43.

4-3. NO.3 GUIDE (TG-3) ADJUSTMENT

When replacing the entire guide base, its height is preset.

TG-3 Guide Height Preset (See Fig. 44.)

1) The preset height is when the distance between the top of the TG-3 base and the lower flange of TG-3 is 2.6 mm.

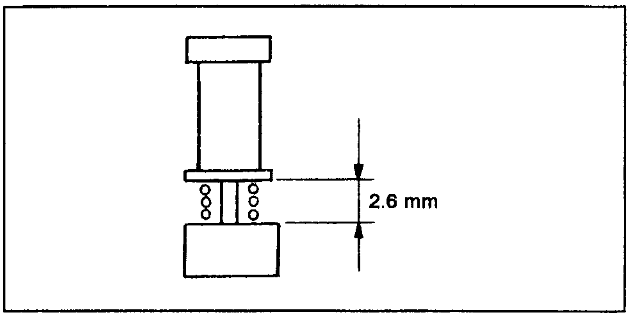


Fig. 44.

No. 3 Guide (TG-3) Adjustment

1) Playback the tracking alignment tape.
2) In the FWD mode, check that the tape runs along the lower flange of TG-3. If there is a clearance between the two, rotate TG-3 in the counterclockwise direction so that the tape runs along the lower flange of TG-3. Rotating angle must be within 180 °.
   Check that the tracking waveform (Fig. 45.) does not change during this procedure.
   If the tracking waveform at the entrance is turning downwards as shown in Fig. 46, raise the height of TG-3 and adjust the tracking at the entrance.

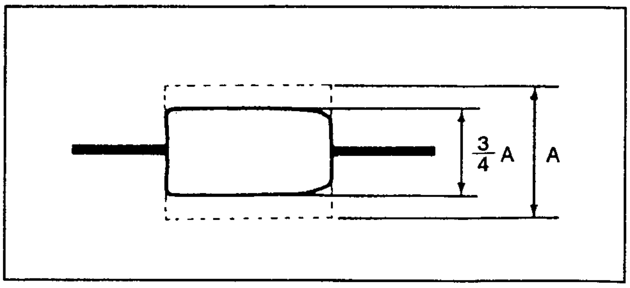


Fig. 45.

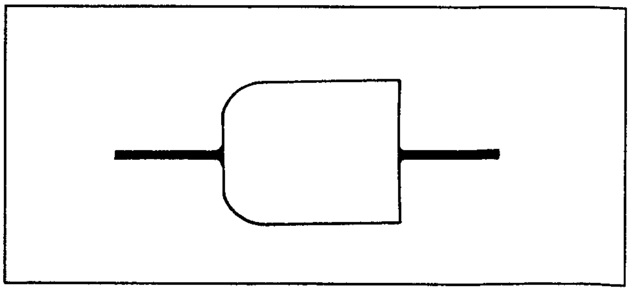


Fig. 46.

After adjusting the tracking at the entrance, set the REV mode. If the tape is curled at the lower flange of TG-3, rotate TG-3 in the clockwise direction to correct the curl.

4-4. NO. 9 GUIDE (TG-9) ADJUSTMENT

1) In the playback mode, check that the tape is not slack between the capstan and No.9 guide (TG-9).
(Specification: 0.5 mm or less)
If the tape is slack, rotate the No. 9 guide (TG-9) and adjust to correct the slack. (See Fig. 47.)
2) Set the REV mode and check the RF waveform at the exit. (See Fig. 48.)
3) If the waveform is unsatisfactory, rotate the TG-9 nut in the counterclockwise direction by 90 ° and recheck steps 2), and 3).
4) Apply screwlock to the top of No. 9 guide (TG-9).

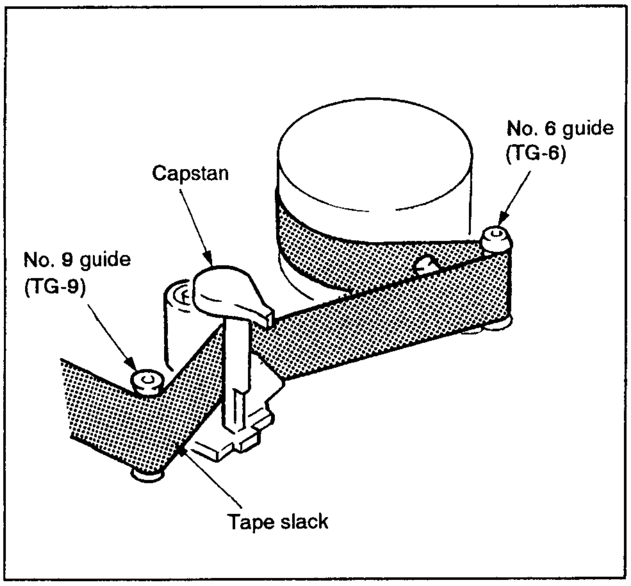


Fig. 47.

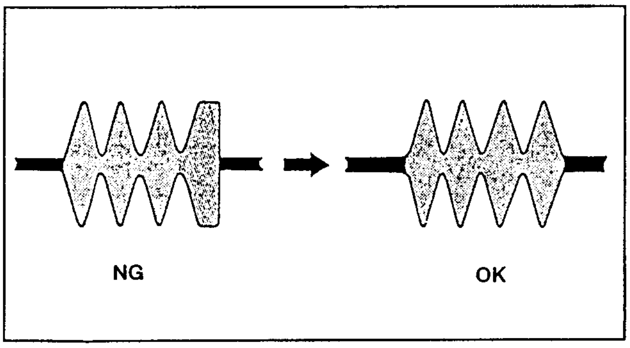


Fig. 48.

4-5. CHECKS AFTER ADJUSTMENTS

1. Tracking Check

1) Playback the tracking alignment tape. Set the PATH mode and shift the track. (See Fig. 49.)
2) Check that the minimum amplitude (EMIN) is 67% or more of the maximum amplitude. (See Fig. 50.)
3) Check that the waveform does not fluctuate badly. (See Fig. 51.)

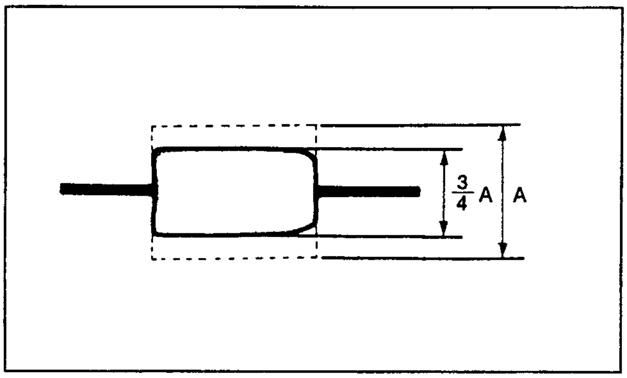
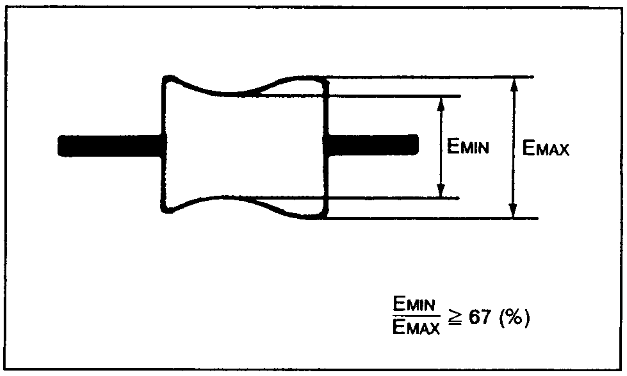
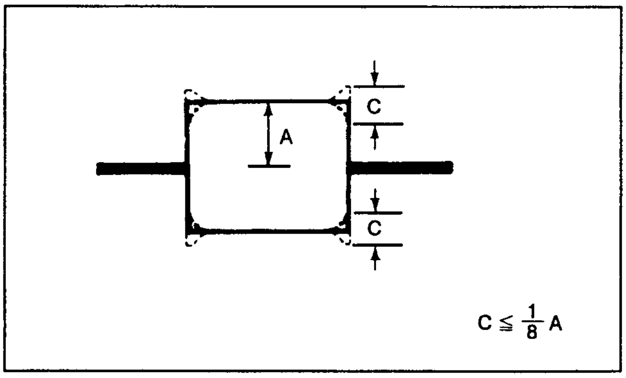


Fig. 49.



$$\frac{E_{MIN}}{E_{MAX}} \geqq 67\ (\%)$$

Fig. 50.



$$C \leqq \frac{1}{8} A$$

Fig. 51.

2. CUE, REV CHECKS

1) Playback the tracking alignment tape and set the REV mode.
The peak pitches of the waveform at this time must be uniform. (See Ⓐ in Fig. 52.)
If not uniform, carry out "4-2. TRACKING ADJUSTMENT" and "4-4. No. 9 GUIDE (TG-9) ADJUSTMENT.
2) Set the CUE mode. The peak pitches of the waveform at this time must be uniform. (See Ⓑ in Fig. 52.)
If not uniform, carry out "4-2. TRACKING ADJUSTMENT".

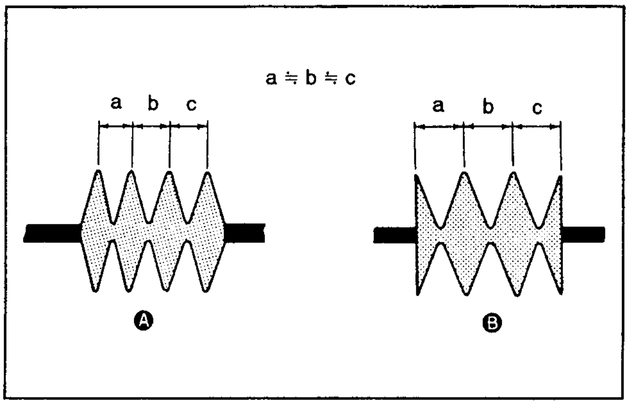


Fig. 52.

3. RISING CHECK

1) Playback the tracking alignment tape.
2) Set the PLAYBACK mode and check that the RF waveform rises horizontally within one second. Also check that the tape around the pinch roller is not slack. (See Fig. 53.)
3) Playback the tape after CUE/REV and FF/REW and check that the RF waveform rises horizontally within one second. Also check that the tape around the pinch roller is not slack.
4) Repeat the checks at steps 2) and 3).

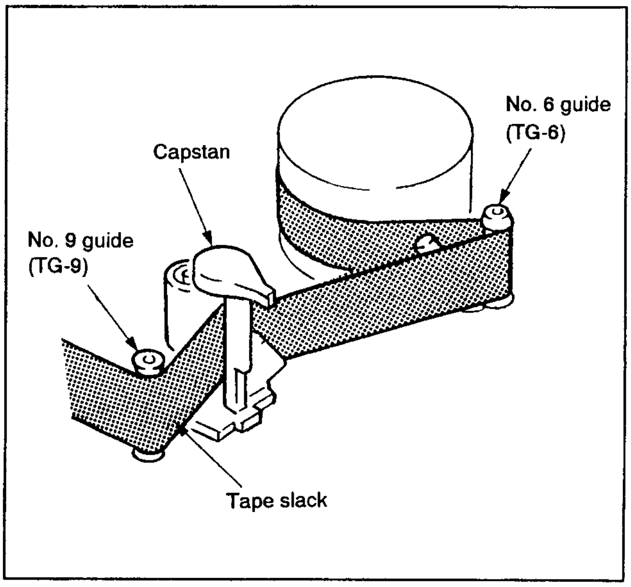

No. 6 guide
(TG-6)
Capstan
No. 9 guide
(TG-9)
Tape slack

Fig. 53.

4. TAPE PATH CHECK

In the CUE and REV modes, check that the tape is not curled badly at lower flange of TG-3, upper flange of TG-4, upper flange of TG-6, lower and upper flanges of TG-9 respectively. (See Fig. 54.)

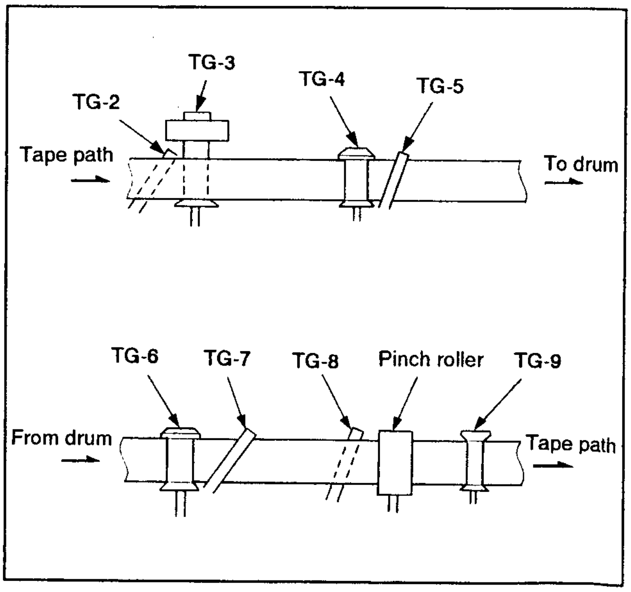
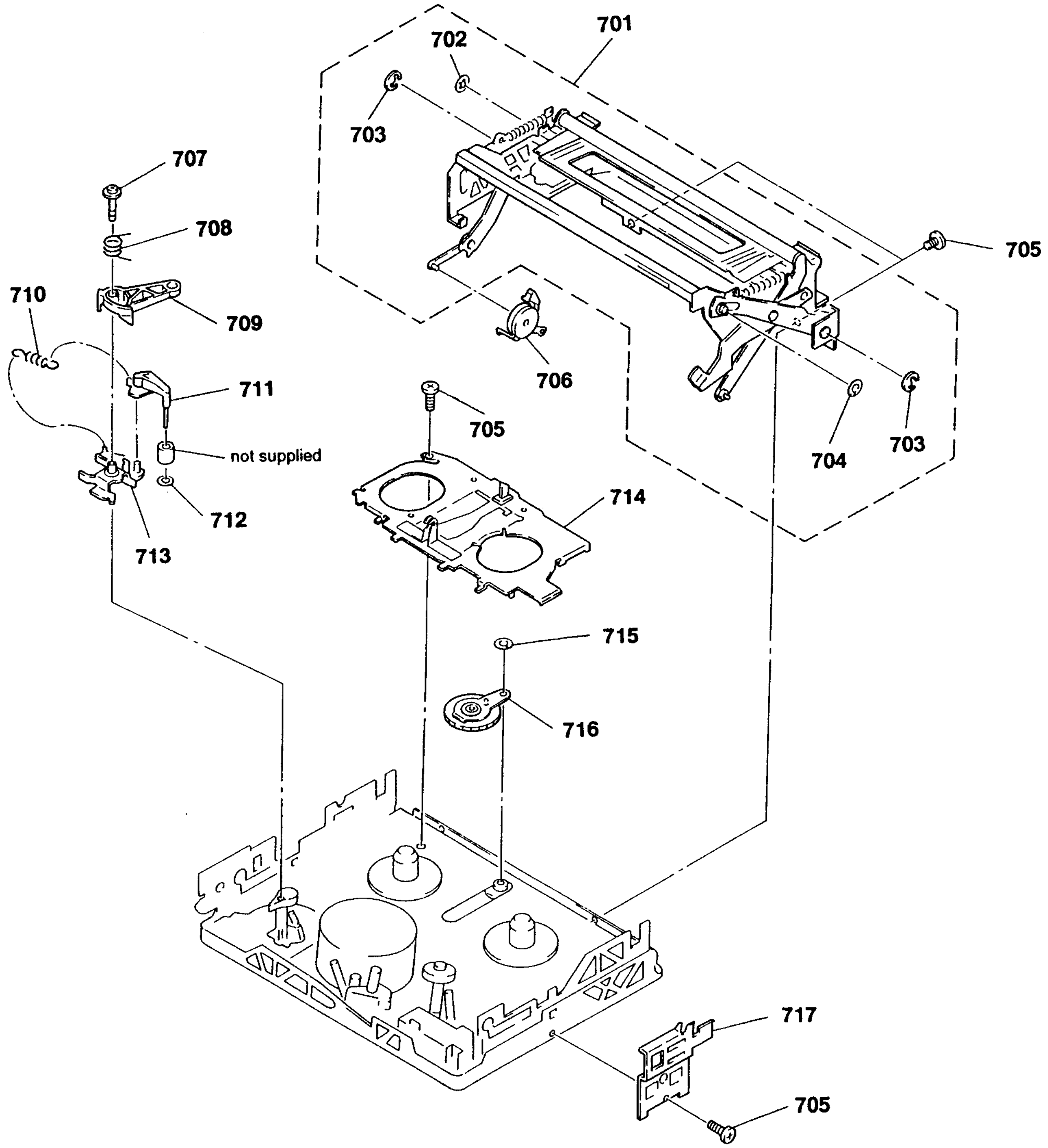

TG-3
TG-2
TG-4
TG-5
Tape path
To drum
TG-6
TG-7
TG-8
Pinch roller
TG-9
From drum
Tape path

Fig. 54.

5. EXPLODED VIEWS

CASSETTE COMPARTMENT BLOCK ASSEMBLY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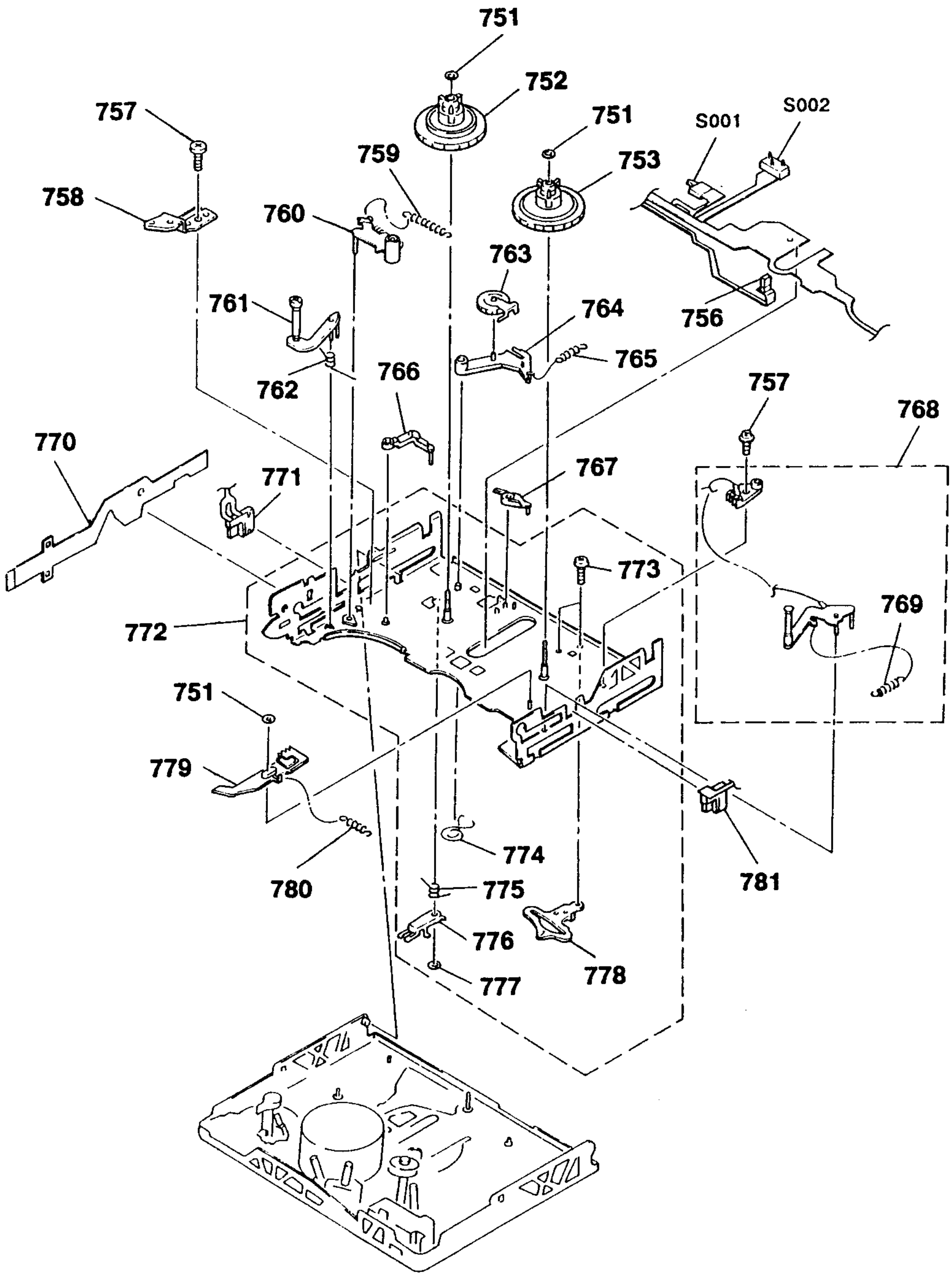
705

Ref. No.	Part No.	Description	Remark
701	A-7040-376-A	CASSETTE COMPARTMENT BLOCKASSY	
702	3-669-465-00	WASHER (1.5), STOPPER	
703	7-624-102-04	STOP RING 1.5, TYPE -E	
704	3-331-007-11	WASHER	
705	3-947-503-01	SCREW (M1.4X2.5)	
706	A-7040-377-A	DAMPER ASSY	
707	3-954-941-01	SCREW (M 1.4)	
708	3-954-939-01	SPRING, TORSION	
709	3-954-910-01	LEVER, HP	
710	3-954-940-01	SPRING, TENSION	
711	X-3943-156-1	ARM ASSY, HP	
712	3-315-414-31	WASHER	
713	3-955-824-01	PLATE, HP	
714	X-3943-143-1	RETAINER ASSY, GOOSENECK	
715	3-331-007-21	WASHER	
716	X-3943-142-1	GEAR ASSY, GOOSENECK	
* 717	3-954-745-01	RETAINER, CASSETTE COMPARTMENT	

LS CHASSIS BLOCK ASSEMBLY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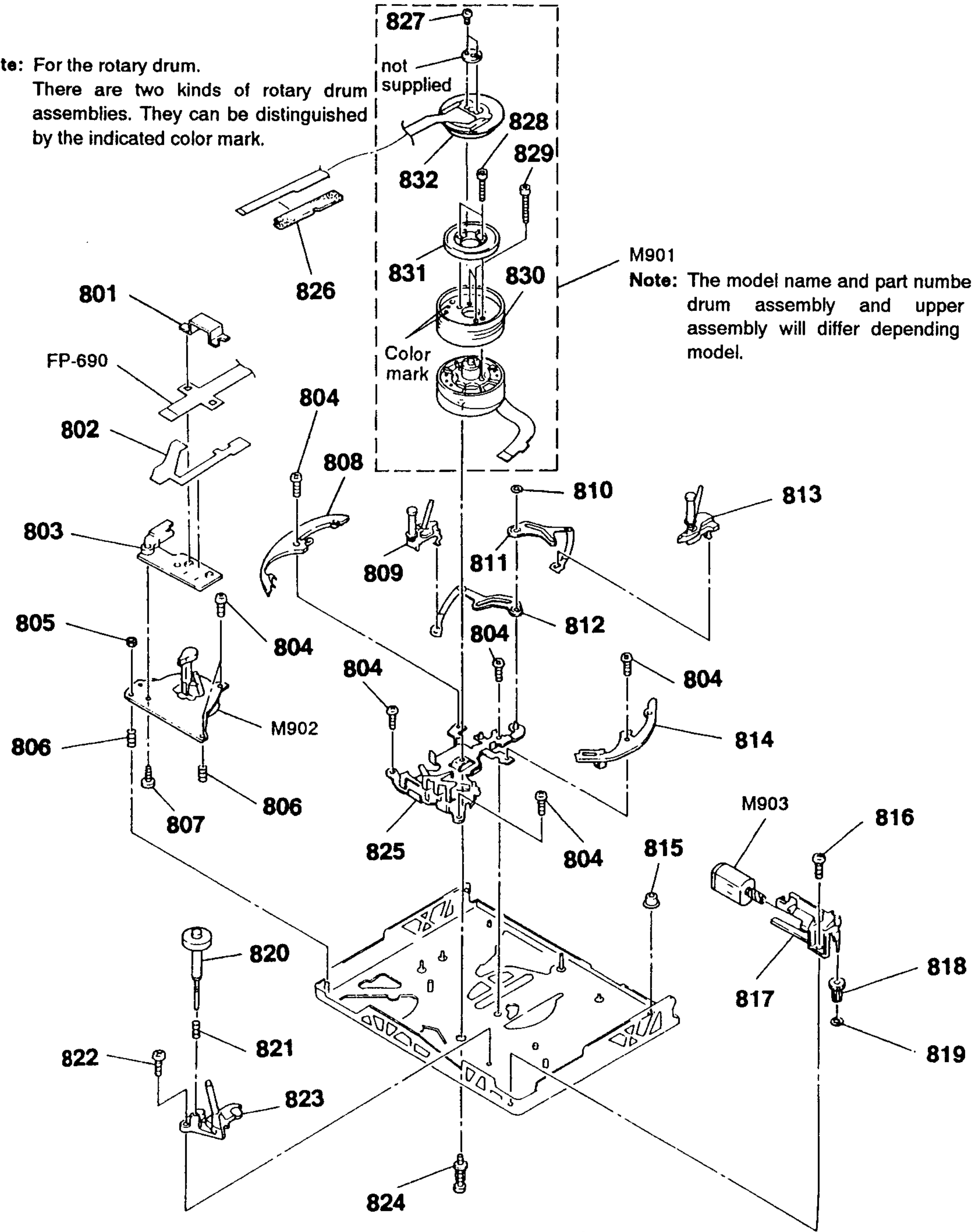
Ref. No.	Part No.	Description	Remark
751	3-331-007-21	WASHER	
752	X-3943-132-1	TABLE ASSY, REEL, T	
753	X-3943-133-1	TABLE ASSY, REEL, S	
756	3-732-046-01	HOLDER, LED	
757	3-947-503-01	SCREW (M1.4X2.5)	
758	3-955-811-01	RETAINER, TG 9 ARM	
759	3-954-730-01	SPRING, TENSION	
760	X-3943-139-1	ARM ASSY, PINCH	
761	A-7040-368-A	ARM BLOCK ASSY, TG9	
762	3-954-729-01	SPRING, TORSION	
763	X-3943-131-1	GEAR ASSY, T SOFT	
764	3-954-853-01	ARM, T SOFT	
765	3-954-854-01	SPRING, TENSION	
766	3-954-850-01	RATCHET, T	
767	3-954-855-01	ARM, T SOFT RELEASE	
768	X-3943-134-1	ARM ASSY, TG1	
769	3-954-871-01	SPRING, TENSION	
770	1-649-039-11	FP-690 FLEXIBLE BOARD	
771	3-954-887-01	HOLDER (T), SENSOR	
772	A-7040-379-A	CHASSIS SUB BLOCK ASSY, LS	
773	3-728-103-11	SCREW (M1.4X1.6), SPECIAL HEAD	
774	3-954-804-01	SPRING, LIMITER	
775	3-954-806-01	SPRING, TORSION	
776	3-954-805-01	ARM, T RATCHET RELEASE	
777	3-954-807-01	WASHER	
778	3-954-809-01	PLATE, CAM, LS	
779	3-954-851-01	RATCHET, S	
780	3-954-852-01	SPRING, TENSION	
781	3-954-870-01	HOLDER (S), SENSOR	
S001	1-572-288-31	SWITCH, PUSH (C.C. LOCK)	
S002	1-692-614-11	SWITCH, PUSH (3 KEY)(REC PROOF, ME/MP)	

MECHANISM CHASSIS ASSEMBLY (1)

Note: For the rotary drum.
There are two kinds of rotary drum assemblies. They can be distinguished by the indicated color mark.



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Color mark
M901
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812
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M902
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825
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M903
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820
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817
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819
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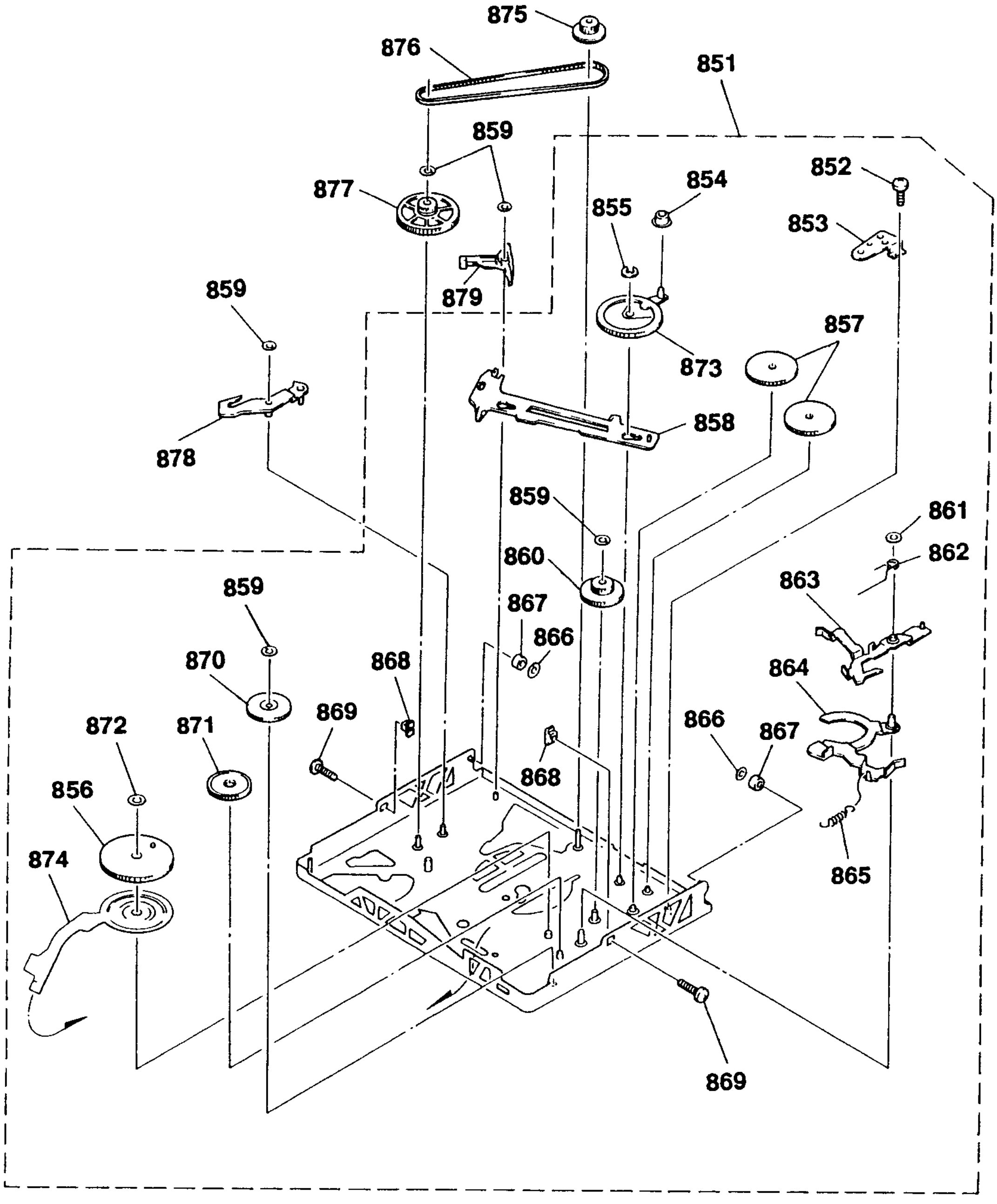
M901
Note: The model name and part number of the drum assembly and upper drum assembly will differ depending on the model.

Ref. No.	Part No.	Description	Remark
* 801	3-956-352-01	RETAINER, FLEXIBLE	
802	1-649-912-11	FP-94 FLEXIBLE BOARD	
* 803	3-956-057-01	BASE, HOLD	
804	3-947-503-01	SCREW (M1.4X2.5)	
805	3-940-892-01	NUT, HEXAGON	
806	3-954-907-01	SPRING, COMPRESSION	
807	2-626-645-01	SCREW (M1.7), WAVE	
808	3-954-899-01	RAIL, T	
809	A-7040-375-A	COASTER (T) BLOCK ASSY	
810	3-331-007-21	WASHER	
811	X-3943-149-1	ARM ASSY, S	
812	X-3943-150-1	ARM ASSY, T	
813	A-7040-374-A	COASTER (S) BLOCK ASSY	
814	3-954-898-01	RAIL, S	
815	3-954-739-01	ROLLER, LS GUIDE	
816	3-955-807-01	SCREW (M1.6 X 2)	
817	X-3943-128-1	HOLDER ASSY, MOTOR	
818	3-954-794-01	GEAR, WHEEL	
819	3-728-091-01	WASHER, STOPPER	
820	X-3943-146-1	ROLLER ASSY, TG3	
821	3-954-886-01	SPRING, COMPRESSION	
822	3-703-816-51	SCREW (M1.4X3.5), SPECIAL HEAD	
823	X-3943-145-1	BASE ASSY, TG3	
824	X-3943-151-1	SCREW ASSY, FITTING	
825	X-3943-147-1	BASE ASSY, DRUM	
* 826	3-957-374-01	CUSHION, DF	
827	3-728-108-41	SCREW (M1.4X2.7)	
828	3-727-807-01	BOLT (M1.7X3.3), HEXAGON SOCKET	
829	3-727-809-01	BOLT (M1.4X5), HEXAGON SOCKET	
830	See Note	DRUM, ASSY UPPER (Color mark: GREEN, GREEN/RED, BLACK, BLACK/RED)	
830	See Note	DRUM, ASSY UPPER (Color mark: RED, RED/RED, BLUE, BLUE/RED)	
831	A-7049-219-A	MOTOR BLOCK ASSY (ROTOR)	
832	A-7049-564-A	MOTOR BLOCK ASSY (STATOR)	
M901	See Note	DRUM ASSY	
M902	8-835-498-01	MOTOR, DC SCE-0401A (CAPSTAN)	
M903	X-3943-127-1	MOTOR ASSY, L (LOADING)	

MECHANISM CHASSIS ASSEMBLY (2)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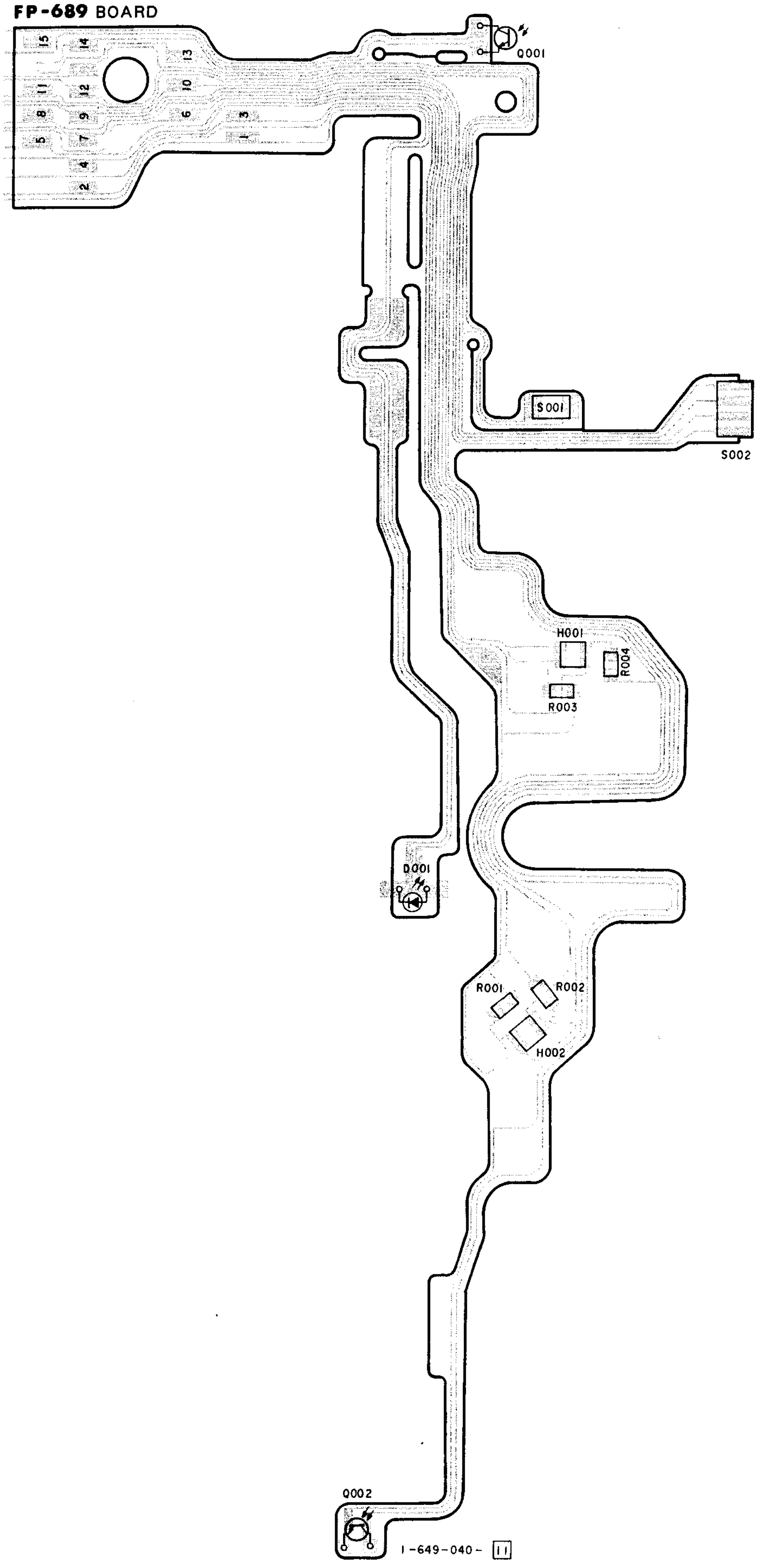
Ref. No.	Part No.	Description	Remark
851	A-7040-378-A	CHASSIS SUB BLOCK ASSY, MECH	
852	3-728-103-11	SCREW (M1.4X1.6), SPECIAL HEAD	
* 853	3-954-744-01	RETAINER, GEAR	
854	3-957-367-01	ROLLER, LS GUIDE (2)	
855	3-578-254-00	RING, RETAINING, E1.2	
856	X-3943-124-1	GEAR ASSY, MODE	
857	3-954-747-01	GEAR (D)	
858	3-954-748-01	SLIDER, M	
859	3-331-007-21	WASHER	
860	3-954-746-01	GEAR (C)	
861	3-955-804-01	WASHER	
862	3-954-791-01	SPRING, TORSION COIL	
863	X-3943-125-1	ARM ASSY, MODE	
864	X-3943-126-1	ARM (2) ASSY, MODE	
865	3-954-790-01	SPRING, TENSION	

Ref. No.	Part No.	Description	Remark
866	3-331-007-11	WASHER	
867	3-954-742-01	ROLLER, LS	
* 868	3-954-743-01	BOSS, LS GUIDE	
869	3-947-503-01	SCREW (M1.4X2.5)	
870	3-954-749-01	GEAR (A)	
871	3-954-750-01	GEAR (B)	
872	3-579-788-01	WASHER, STOPPER	
873	3-954-752-01	GEAR, LS	
874	1-649-038-11	FP-685 FLEXIBLE BOARD	
875	3-954-788-01	PULLEY, RELAY	
876	3-954-789-01	BELT, RELAY	
877	X-3943-123-1	GEAR ASSY, CONVERSION	
878	X-3943-336-1	ARM ASSY, PINCH RELEASE	
879	3-954-741-01	ARM, EJ	

6. PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM

FP-689 BOARD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Q001
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Q002
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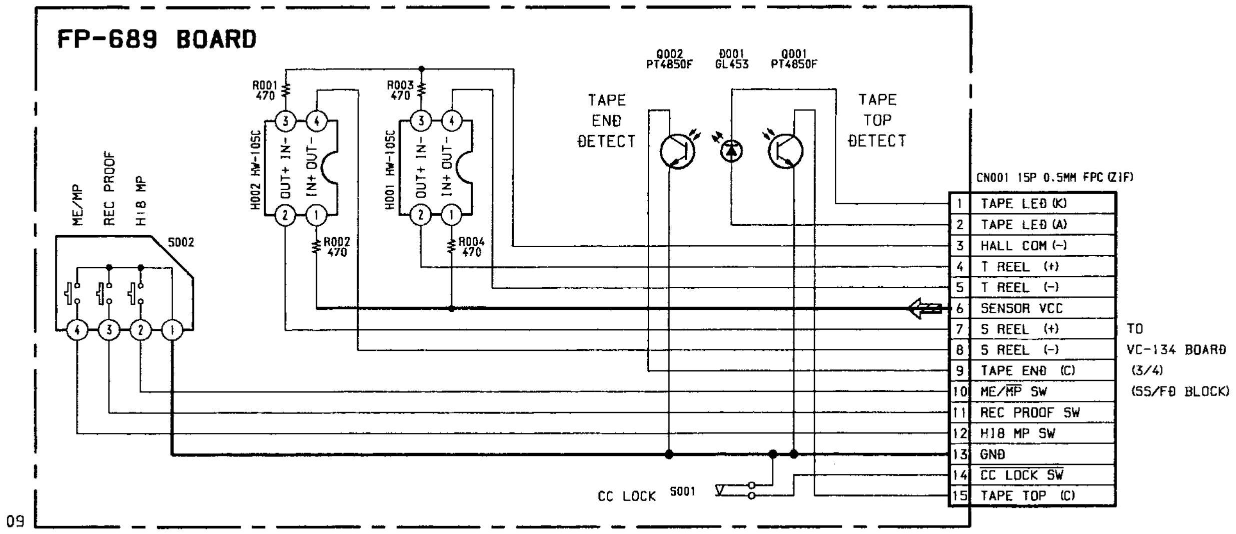

FP-689 BOARD
Q002
PT4850F
D001
GL453
Q001
PT4850F
TAPE
END
DETECT
TAPE
TOP
DETECT
R001
470
R003
470
H002 HW-105C
H001 HW-105C
OUT+ IN-
IN+ OUT-
R002
470
R004
470
ME/MP
REC PROOF
H18 MP
S002
CN001 15P 0.5MM FPC (ZIF)
1 TAPE LED (K)
2 TAPE LED (A)
3 HALL COM (-)
4 T REEL (+)
5 T REEL (-)
6 SENSOR VCC
7 S REEL (+)
8 S REEL (-)
9 TAPE END (C)
10 ME/MP SW
11 REC PROOF SW
12 H18 MP SW
13 GND
14 CC LOCK SW
15 TAPE TOP (C)
TO
VC-134 BOARD
(3/4)
(SS/FD BLOCK)
CC LOCK
S001
09

7. ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description	Remark
		FP-689 BOARD, COMPLETE ************************ (Ref. No. 9,000 Series)	
	3-732-046-01	HOLDER, LED	
	3-954-870-01	HOLDER (S), SENSOR	
	3-954-887-01	HOLDER (T), SENSOR	
		< DIODE >	
D001	8-719-988-42	DIODE GL453S	
		< HALL ELEMENT >	
H001	8-719-033-37	ELEMENT, HALL HW-105C	
H002	8-719-033-37	ELEMENT, HALL HW-105C	
		< TRANSISTOR >	
Q001	8-729-907-25	TRANSISTOR PT4850F	
Q002	8-729-907-25	TRANSISTOR PT4850F	
		< RESISTOR >	
R001	1-216-817-11	METAL CHIP 470 5% 1/16W	
R002	1-216-817-11	METAL CHIP 470 5% 1/16W	
R003	1-216-817-11	METAL CHIP 470 5% 1/16W	
R004	1-216-817-11	METAL CHIP 470 5% 1/16W	
		< SWITCH >	
S001	1-572-288-31	SWITCH, PUSH	
S002	1-692-614-11	SWITCH, PUSH (3 KEY)	

8mm Video MECHANICAL ADJUSTMENT MANUAL Ⅵ

TK MECHANISM

Video 8

SUPPLEMENT-1

File this supplement with the 8mm Video MECHANICAL ADJUSTMENT MANUAL Ⅵ.

Subject: USE OF MODE SELECTOR Ⅱ
MODE GEAR ASSEMBLY PHASE ADJUSTMENT
CORRECTION

2-5. USE OF MODE SELECTOR Ⅱ

2-5-1. Outline

This unit is a mechanism drive tool which supplements the maintenance of each mechanism deck. Its functions are described below.

1. **Manual test**

   A mode which drives the motor only while the switch is ON. It enables the operator to control the motor as desired.

2. **Step test**

   A mode which drives the motor until the current condition detected by the sensor changes to another condition. It enables the movements made by the motor in each operation to be controlled while being checked.

3. **Auto test**

   A mode that checks if the mechanism operates normally according to the condition shift table recorded in the unit for each mechanism deck. All the conditions of the decks are checked through a series of operations.
   An error message is displayed if incorrect shifts and conditions are detected and operations are stopped.

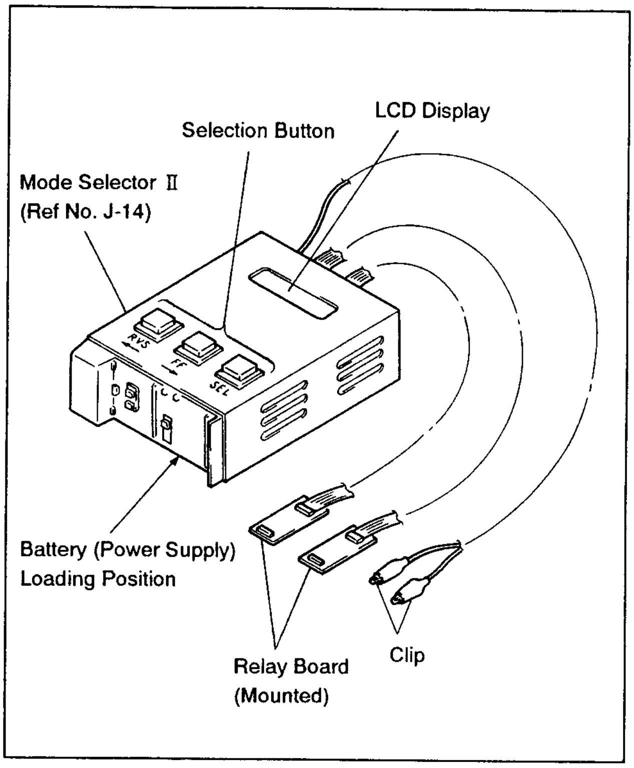

LCD Display
Selection Button
Mode Selector Ⅱ
(Ref No. J-14)
Battery (Power Supply)
Loading Position
Relay Board
(Mounted)
Clip

Fig. 1.

Mode Selector Ⅱ (J-6082-282-A) Connection

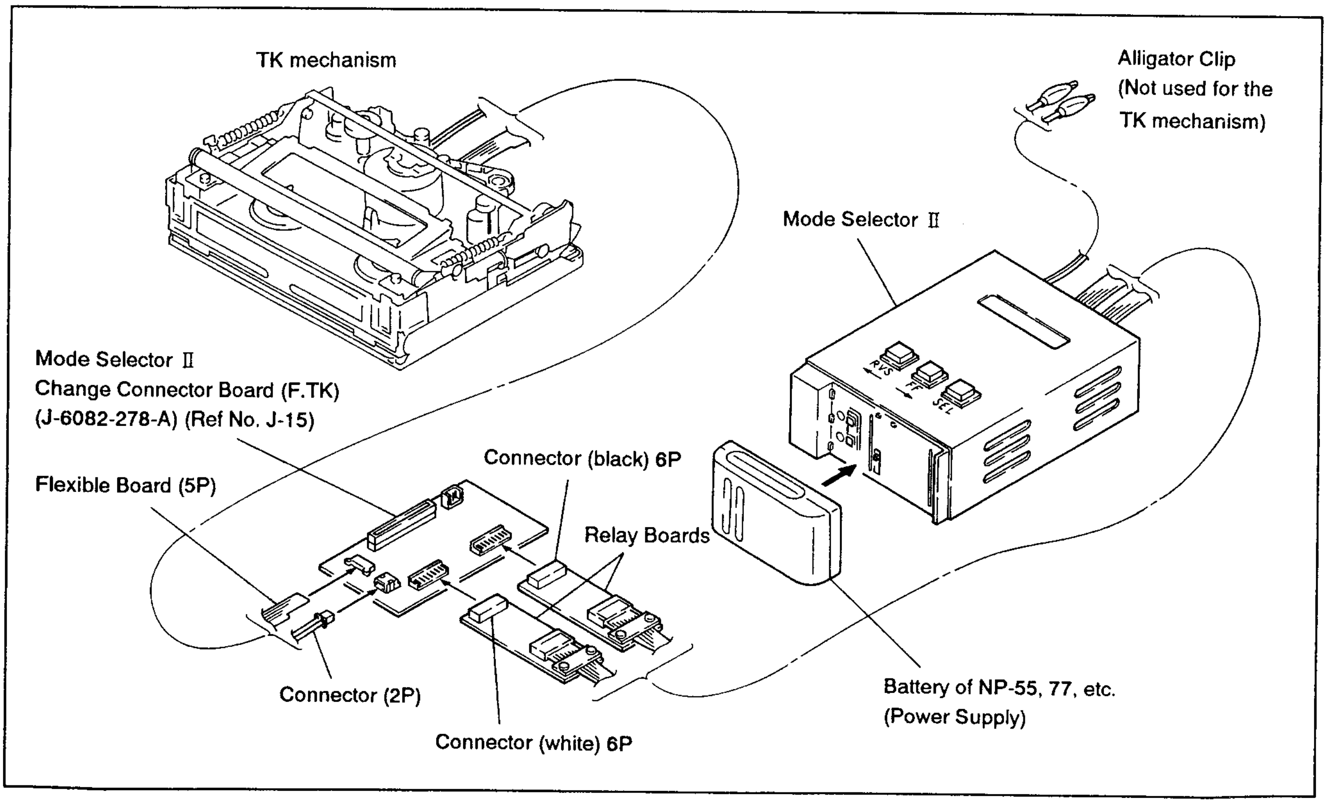
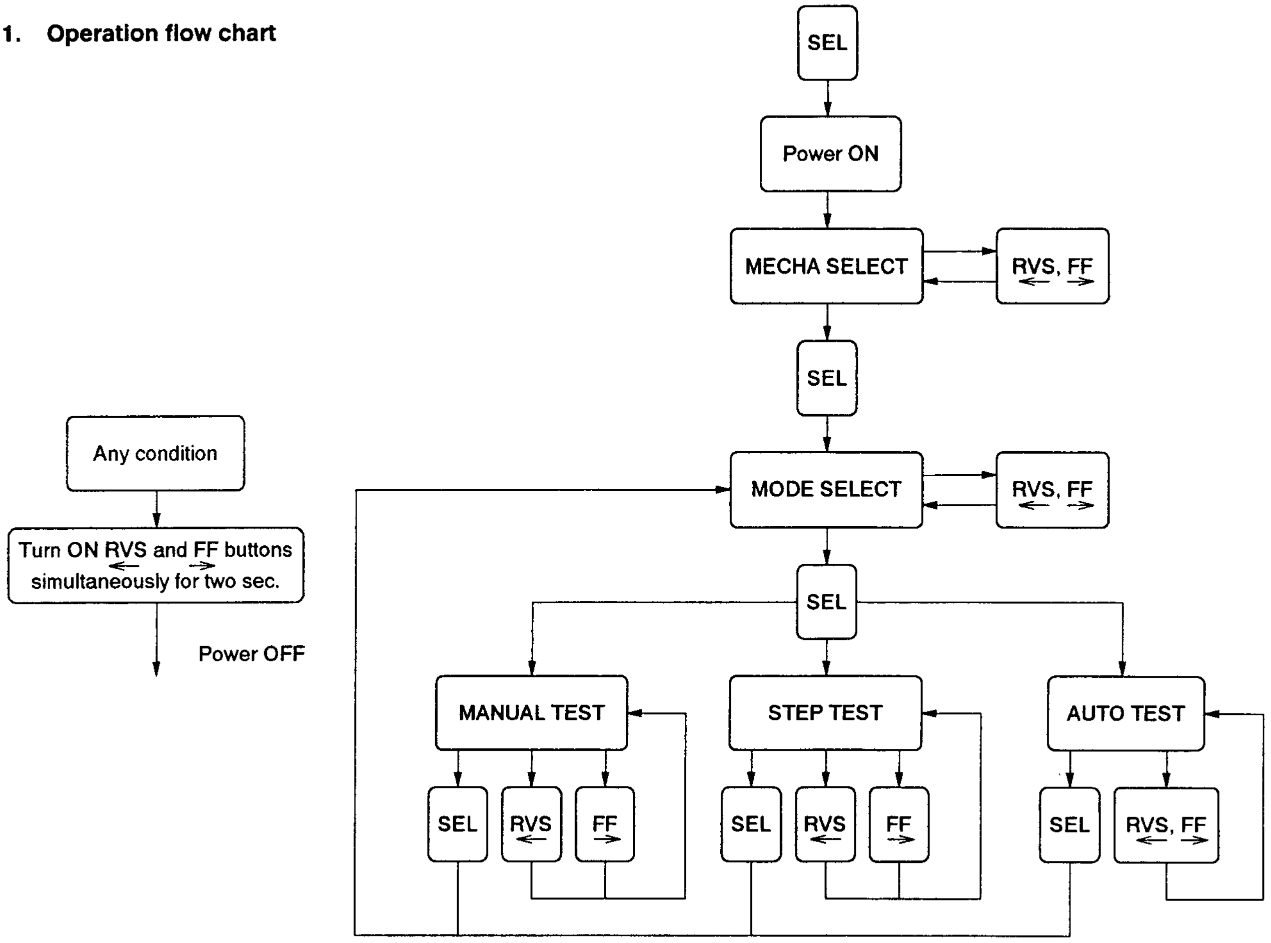

TK mechanism
Alligator Clip
(Not used for the
TK mechanism)
Mode Selector Ⅱ
Mode Selector Ⅱ
Change Connector Board (F.TK)
(J-6082-278-A) (Ref No. J-15)
Flexible Board (5P)
Connector (black) 6P
Relay Boards
Connector (2P)
Connector (white) 6P
Battery of NP-55, 77, etc.
(Power Supply)

Fig. 2.

2-5-2. Operation

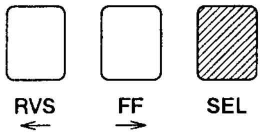
1. Operation flow chart


SEL
Power ON
MECHA SELECT
RVS, FF
SEL
MODE SELECT
RVS, FF
SEL
MANUAL TEST
STEP TEST
AUTO TEST
SEL
RVS
FF
SEL
RVS
FF
SEL
RVS, FF
Any condition
Turn ON RVS and FF buttons simultaneously for two sec.
Power OFF

(Excluding the K mechanism)

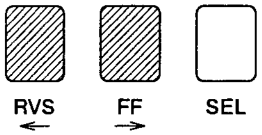
2. Turning ON the mode selector II

To turn ON the power supply, turn on the SEL button.



3. Turning OFF the mode selector II

To turn OFF the power supply, turn on the RVS and FF buttons simultaneously for more two seconds.



4. Mechanism selection

Immediately after the power supply has been turned on, "MECHA SELECT" will be displayed on the LCD. Select the desired mechanism using the RVS and FF buttons, and press the SEL button to complete the selection. (Fig. 3-1 shows the TK mechanism.)

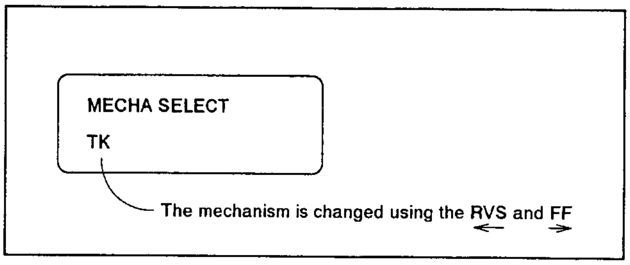

MECHA SELECT
TK
The mechanism is changed using the RVS and FF

Fig. 3-1.

5. Mode selection

Select the test-"MANUAL", "STEP", and "AUTO"- to be executed.
Select the desired mode on the screen using the RVS and FF buttons, and press the SEL button to complete the selection.

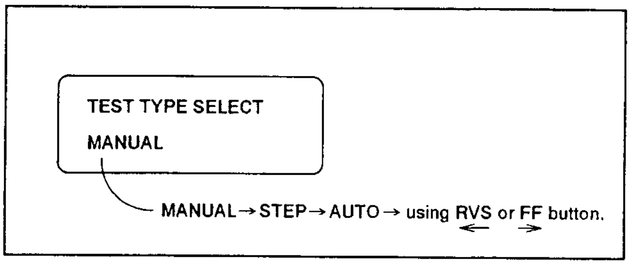

TEST TYPE SELECT
MANUAL
MANUAL→STEP→AUTO→ using RVS or FF button.

Fig. 3-2.

6. Manual test

A mode that drives the motor only when the RVS or FF button is pressed.

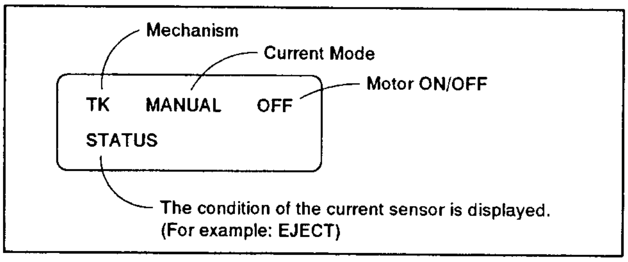

Mechanism
Current Mode
Motor ON/OFF
TK MANUAL OFF
STATUS
The condition of the current sensor is displayed. (For example: EJECT)

Fig. 3-3.

7. Step test

A mode that drives the motor until the direction of motor operations is set using the RVS and FF buttons and the current condition is changed.

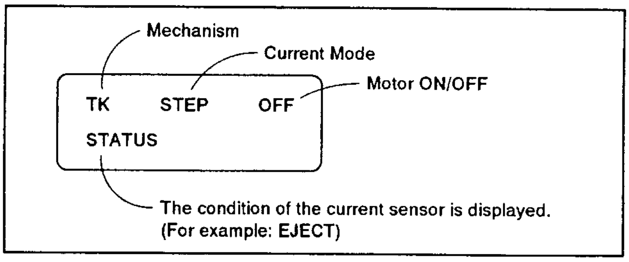

Mechanism
Current Mode
Motor ON/OFF
TK STEP OFF
STATUS
The condition of the current sensor is displayed. (For example: EJECT)

Fig. 3-4.

8. Auto test

Each mechanism deck is checked for its recorded operation sequence. The check is executed by comparing the sensor signals generated in the operation sequence with the recorded operation sequence.
The same operation is carried out when the RVS or FF button is turned on.

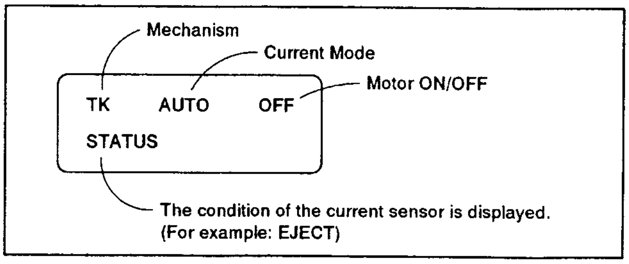

Mechanism
Current Mode
Motor ON/OFF
TK AUTO OFF
STATUS
The condition of the current sensor is displayed. (For example: EJECT)

Fig. 3-5.

Mechanism condition (position) shifting order

After selecting the mechanism, select one mode from the two test modes, excluding the AUTO test. Then press the $\underset{\longleftarrow}{\text{RVS}}$ or $\underset{\longrightarrow}{\text{FF}}$ button and specify the mechanism condition (position). (Displayed at the STATUS area)
EJECT ⟷ USE ⟷ LOAD ⟷ REW ⟷ FF ⟷
RP ⟷ TURN ⟷ STOP

Code / MD name					TK mechanism
A	B	C	D		
1	0	1	0	1	EJECT
1	0	0	0	2	USE
0	0	0	0	3	LOAD
0	0	0	1	4	REW
1	0	0	1	5	FF
1	0	1	1	6	RP
0	0	1	1	7	TURN
0	0	1	0	8	STOP

9. Battery alarm display

When the battery voltage (power supply unit of the unit) drops, this alarm is displayed asynchronously.
When this is displayed, no operations can be carried out and the battery must be changed.

BATT DOWN
CHANGE PLEASE

Fig. 3-6.

3-23. MODE GEAR ASSEMBLY PHASE ADJUSTMENT

When the FP-685 flexible board, mode gear assembly, LS gear, gear (C) and mode arm assembly have been removed or replaced, the mode gear assembly and related gears will become out of phase and the unit may not work properly. Therefore, carry out the following adjustments and adjust its phase.

1. Adjusting Method (See Fig. 4.)

1) With gear (C) ① and gear (D) ② removed, adjust the hollow ④ of the mode gear assembly ③ to the line connecting the centers of the hole ⑤ of the mechanism chassis and mode gear shaft, as shown in Fig. A.
2) As shown in Fig. B, adjust the positioning hole ⑥ of gear (C) ① to the hollow ④ of the mode gear, attach the hole to the shaft and then the washer ⑦.
3) As shown in Fig. B, attach gear (D) ② to the shaft.
4) Refer to steps 9) to 13) of "3-13. M Slider" and attach them.

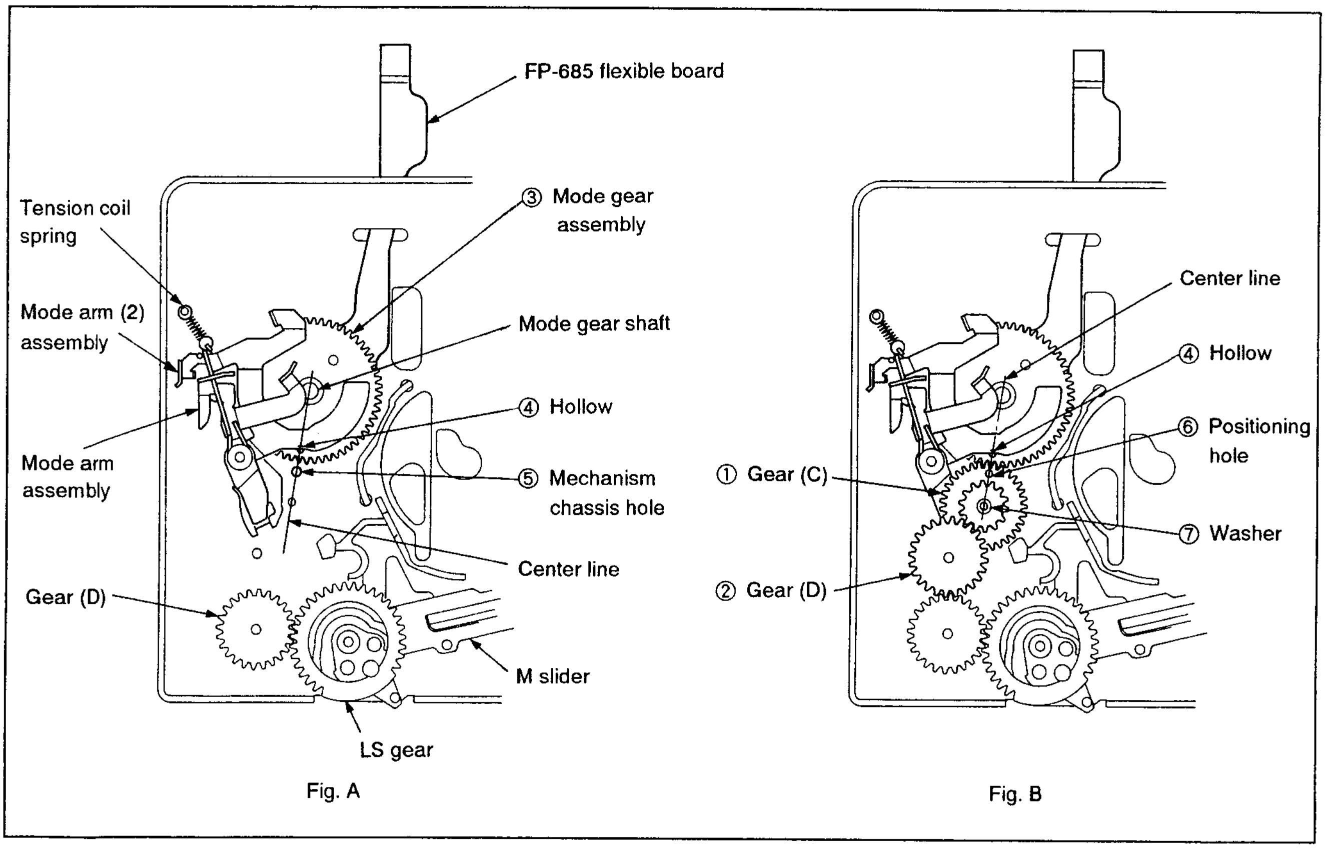

FP-685 flexible board
Tension coil spring
Mode arm (2) assembly
Mode arm assembly
Gear (D)
③ Mode gear assembly
Mode gear shaft
④ Hollow
⑤ Mechanism chassis hole
Center line
M slider
LS gear
Fig. A
Center line
④ Hollow
⑥ Positioning hole
① Gear (C)
⑦ Washer
② Gear (D)
Fig. B

Fig. 4

< CORRECTION >

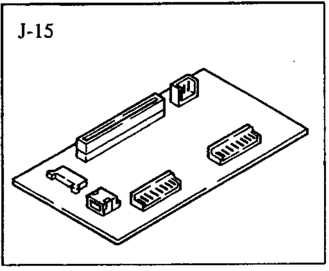
☛ : Corrected portion

Page. 8

2-4. SERVICE JIGS LIST

Ref. No.	Name	Part No.	Fixture No.	Usage, Others
J-6	Alignment tape NTSC (WR5-1N) Alignment tape PAL (WR5-1C)	8-967-995-01 8-967-995-06		Tape path
J-15	Mode selector II change connector board (F.TK)	J-6082-278-A		

J-15



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3. MECHANISM SECTION CHECKS, ADJUSTMENTS, AND REPLACEMENTS

Note: Use the mode selector II (Ref No. J-14) in the checks, adjustments, and replacements for this mechanism section.

Note: The mode in ☐ is set by pressing the button of the mode selector.

Note: [DOCK] mode= [LOAD] mode.
[CUE] mode= [RP] mode.
[REV] mode= [RP] mode.

Page. 20

3-11. COASTER S ASSEMBLY, COASTER T ASSEMBLY, S RAIL, T RAIL, S ARM ASSEMBLY, T ARM ASSEMBLY

4) Remove one screw of the S and T rails, rotate them in the direction of the arrow. The snap fitting will come off. (Fig. 25.)

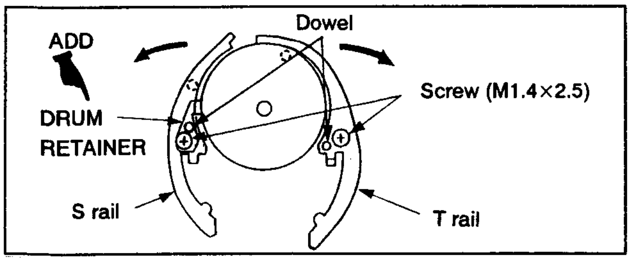

Fig. 25.
3-957-868-01 RETAINER, DRUM

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3-13. M SLIDER (See Fig. 31.)

8) Attach gear D ②.

Note: Refer to 3-23, and check that the mode gear assembly and related gears are in phase.

9) Check that the positioning holes 🅐, 🅑, 🅒 are at the correct positions.
10) Attach the gear retainer ①.
11) Fix the screw ⑩.
12) Refer to 3-6 and attach the LS chassis assembly.
13) Refer to 1-1 and attach the cassette compartment holder assembly.

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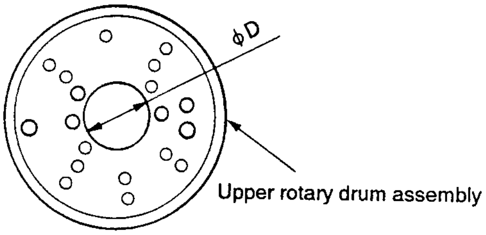
☞ : Corrected portion

3-18. REPLACEMENT OF UPPER ROTARY DRUM ASSEMBLY (See Fig. 36. and 37.)

- There are two types of upper rotary drum assembly depending on the color mark. (See Fig. A in Fig. 37.)

EX: CCD-SC5 ☞

A-7049-536-A	Upper rotary drum assembly DGR-76-R-(1)
A-7049-534-A	Upper rotary drum assembly DGR-76-R-(2)



Upper drums for manufacturing ☞

RANK	ϕ D	REMARKS	
A	$\phi\ 8^{+0.0015}_{+0.001}$	Green	-01
B	$\phi\ 8^{+0.001}_{+0.0005}$	Green, Red	
C	$\phi\ 8^{+0.0005}_{0}$	Black	
D	$\phi\ 8^{0}_{-0.0005}$	Black, Red	
E	$\phi\ 8^{-0.0005}_{-0.001}$	Red	-11
F	$\phi\ 8^{-0.001}_{-0.0015}$	Red, Red	
G	$\phi\ 8^{-0.0015}_{-0.002}$	Blue	
H	$\phi\ 8^{-0.002}_{-0.0025}$	Blue, Red	

Upper drum for repairing

SUFFIX	ϕ D measurement	REMARKS	DRUM UPPER
-01	$\phi\ 8^{+0.001}_{+0.0005}$	Green, Red	DGR-76-R-(1) (EX: CCD-SC5) ☞
	$\phi\ 8^{+0.0005}_{0}$	Black	
-11	$\phi\ 8^{-0.001}_{-0.0015}$	Red, Red	DGR-76-R-(2) (EX: CCD-SC5) ☞
	$\phi\ 8^{-0.0015}_{-0.002}$	Blue	

1. Removing

1) Refer to 3-17 and remove the drum assembly.
2) Remove the two screws ①. (See Fig. 36.)
3) Hold the exit (base) of the guide protector ② and lift it up diagonally. In this state, hold the circumference of the stator assembly ③ and remove it. (See Fig. 36.)

Note: The flexible board and guide protector ② are only glued in place and therefore come off easily.

4) As shown in Fig. A, hook the rotor earth spring ④ onto the spring hook. (See Fig. 36.)
5) Using a drum screwdriver (Ref No. J-11), remove the two hexagonal socket bolts ⑤ , and remove the rotary upper drum assembly ⑥. (See Fig. 37.)
6) Using the drum screwdriver (Ref No. J-11), remove the two hexagonal socket bolts ⑦, and remove the rotor assembly ⑧ . (See Fig. A in Fig. 37.)

2. Attaching

1) Clean the flange surface ⑩ and the surface of the rotary upper drum assembly ⑥ that will come in contact with it, and check that there are no dusts, scratches, etc. (See Fig. 37.)
2) Adjust the direction of the upper drum so that the head contact mold pin ⑪ fits the reference hole of the rotary upper drum assembly ⑥ and press in lightly. (See Fig. 37.)

Note: Look at the space between the upper drum and lower drum and check that it is about 0.05 mm.

3) Using a drum screwdriver (Ref No. J-11), tighten the two hexagonal socket bolts ⑤ (800 g • cm), and rotate the drum with your fingers and make sure that there are no problems. (See Fig. 37.)
4) Adjust pin ⑨ of the rotor assembly ⑧ to the hole of the rotary upper drum assembly ⑥ . Using a drum screwdriver (Ref No. J-11), tighten the two hexagonal socket bolts ⑦ (800 g • cm). (See Fig. A in Fig. 37.)
5) Remove the rotor earth spring ④ from the spring hook. Using a pair of tweezers, etc., hook it onto the groove of the stator boss ⑫. (See Fig. B in Fig. 37.)

Note: Make sure that the rotor earth spring ④ does not go between the flange and stator.

6) Hold the circumference of the stator assembly ③, place it on the inner step of the upper drum and insert the other side slowly. (See Fig. B in Fig. 36.)
7) Tighten the two screws ①. (500 g • cm). (See Fig. 36.)
8) Rotate the upper drum with your fingers and check that it rotates smoothly.
9) Refer to 3-17 and attach the drum assembly.

Note: After attaching, carry out "4. TAPE PATH ADJUSTMENT".

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4. TAPE PATH ADJUSTMENT

4-1. PREPARATIONS FOR ADJUSTMENT.

4) Playback a tracking alignment tape
   (NTSC: WR5-1N/PAL: WR5-1C) (Ref. No. J-6).

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4-2. TRACKING ADJUSTMENT (See Fig. 43.)

1) Playback the tracking alignment tape (WR5-1NP) (Ref No. J-6).
2) Rotate the No. 4 guide and flatten the waveform at the entrance.
3) Rotate the No. 6 guide and flatten the waveform at the exit.

The TG-4 and TG-6 gate adjusting screws need not be adjusted.

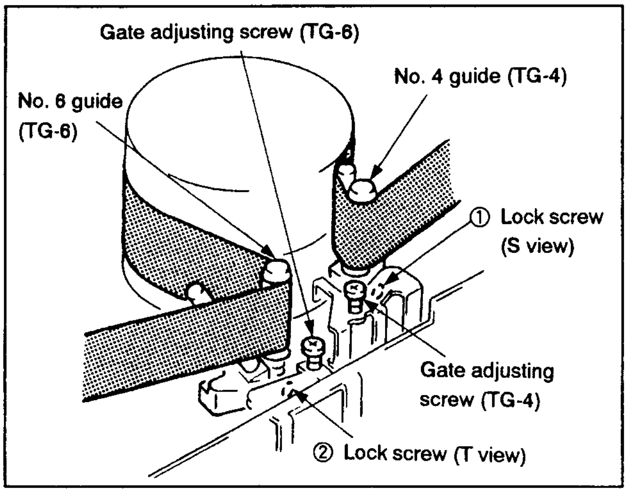
Gate adjusting screw (TG-6)
No. 4 guide (TG-4)
No. 6 guide (TG-6)
① Lock screw (S view)
Gate adjusting screw (TG-4)
② Lock screw (T view)

Fig. 43.

MEMO

MEMO

8mm Video MECHANICAL ADJUSTMENT MANUAL VI

English
94D09159-1

Sony Corporation
Consumer A&V Products Company
Personal A&V Products Div.

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Published by Personal A&V Products Div.
Quality Engineering Dept.

9-973-446-81

8mm VIDEO MECHANICAL ADJUSTMENT MANUAL VI

TK MECHANISM

Video 8

SUPPLEMENT-2

Use this manual together with the previous issued “8 mm VIDEO MECHANICAL ADJUSTMENT MANUAL VI ” (9-973-446-11) and “SUPPLEMENT-1” (9-973-446-81). (EV-502097)

Main Change: Change of drum base assembly
(Unification of TG-3 base assembly and drum base assembly)

- A part of the TK mechanism has changed from the middle. Since some parts do not have interchangeability due to the difference of form, refer to the parts list in a service manual of that model after confirming the repair set. Here, the parts which have changed “Removal” and “Installation” due to the change of form are mainly mentioned.

Note: The page No. ( ) stated on top of each title shows you the page No. in the previous issued “8 mm Video MECHANICAL ADJUSTMENT MANUAL VI ” (Original: 3-973-446-11).

Example: (Original: Page 4)
1-2. HP ARM BLOCK ASSEMBLY

(Original: Page 4)

1-2. HP ARM BLOCK ASSEMBLY (See Fig. 2.)

1. Removing

1) Set the unit to the EJECT position with the cassette compartment holder assembly removed or attached.
2) Move the HP arm block assembly ② in the direction of arrow Ⓐ with your hand. (See Fig. 2-B.)

Note: As the HC roller of the HP arm block assembly ② will not touch the drum in the EJECT position, move it away from the drum with your hand. (See Fig. 2-A.)

3) Remove the screw ①, and in the state of 2), remove the HP arm block assembly ② in the direction of arrow Ⓑ. (See Fig. 2-B)

2) Attaching

1) Set the unit to the EJECT position.
2) Hold the HP plate with your fingers and press the HP lever at the part indicated in Fig. 2-B.

Note: Confirm that the pin of HP lever is in the cam groove of HC arm. (See Fig. 2-A)

3) In the state of 2), attach the HP arm block assembly ② to the capstan motor.

Note: When attaching, make sure that the HC roller does not touch the drum. (See Fig. 2-C)

4) Adjust the hole of the HP plate to the positioning dowel, tighten the screw ①, and attach the HP arm block assembly ②.

Note: When attaching, be careful not to touch the tension spring with your hand and change its shape.

5) After attaching, check that it works properly. First, check that the HP arm block assembly ② is attached at the position shown in Fig. 2-A. Next, check that the HC roller moves away from the drum when the HP lever is rotated in the direction of arrow Ⓐ shown in Fig. 2-B.

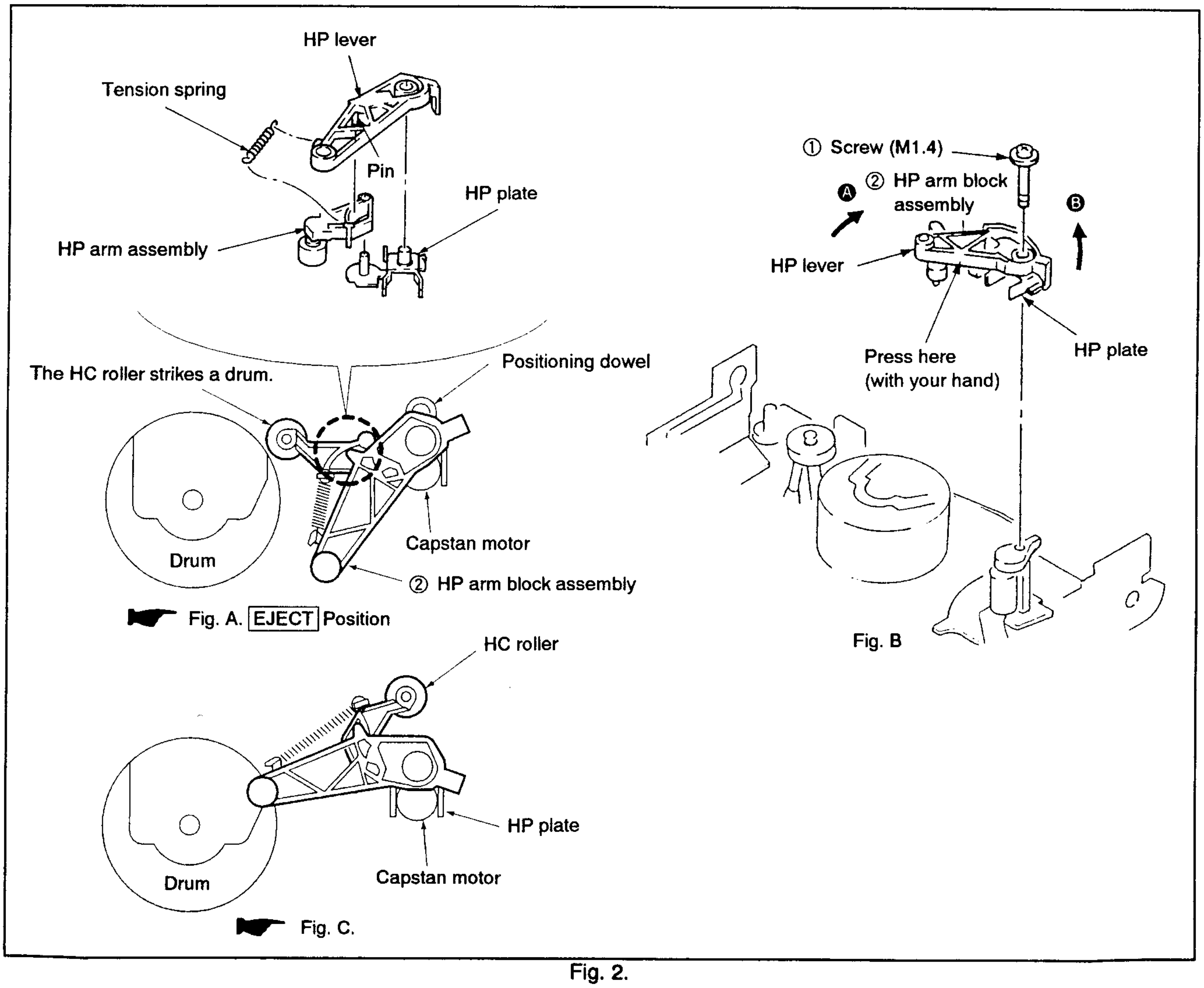

HP lever
Tension spring
Pin
HP plate
HP arm assembly
The HC roller strikes a drum.
Positioning dowel
Drum
Capstan motor
② HP arm block assembly
① Screw (M1.4)
② HP arm block assembly
Ⓐ
Ⓑ
HP lever
Press here (with your hand)
HP plate
HC roller
HP plate
Drum
Capstan motor

Fig. A. EJECT Position

Fig. B

Fig. C.

Fig. 2.

(Original: Page 9)

3. MECHANISM SECTION CHECKS, ADJUSTMENTS, AND REPLACEMENTS

Note: Use the mode selector Ⅱ (Ref No. J-14) in the checks, adjustments, and replacements for this mechanism section.

Note: The mode in □ is set by pressing the button of the mode selector.

3-1. RETAINER ASSEMBLY (See Fig. 6.)

1. Removing

1) Set the $\boxed{\text{USE}}$ mode.
2) Refer to 1-1 and remove the cassette compartment holder assembly.
3) Rotate the LED in the direction of arrow 🅐 as shown in Fig. A and remove it the direction of arrow 🅑.
4) Remove the screw ①.
5) Rotate the lever (Outsert) ③ in the clockwise direction and remove the claw ⓒ.
6) While lifting up the retainer assembly ②, push it the direction of arrow 🅒 and remove it.

Note: Be careful when attaching and removing the retainer assembly ② as the shape of its LED holder changes easily.

2. Attaching

1) Set the $\boxed{\text{USE}}$ mode.
2) Insert the claws ⓐ, ⓑ of the retainer assembly ② into the two hooks ⓓ of the LS chassis without sandwiching the LED.

Note: To install the Retainer assembly ②.
   1. Confirm that the pin ⓔ of gooseneck gear assembly ④ is peeping through the hole of retainer assembly ②. (See Fig. D.)
   2. Confirm that the Positioning dowel ⓕ is in the hole of LS chassis.

3) Fix the screw ①.
4) Rotate the lever (Outsert) ③ in the counterclockwise direction so that it comes on top of the claw ⓒ.
5) As shown in Fig. B, insert the LED in the direction of arrow 🅐, rotate it in the direction of arrow 🅑 and attach it.
6) As shown in Fig. C, bend a flexible board and put it in the holder.
7) Refer to 1-1 and attach the cassette compartment holder assembly.

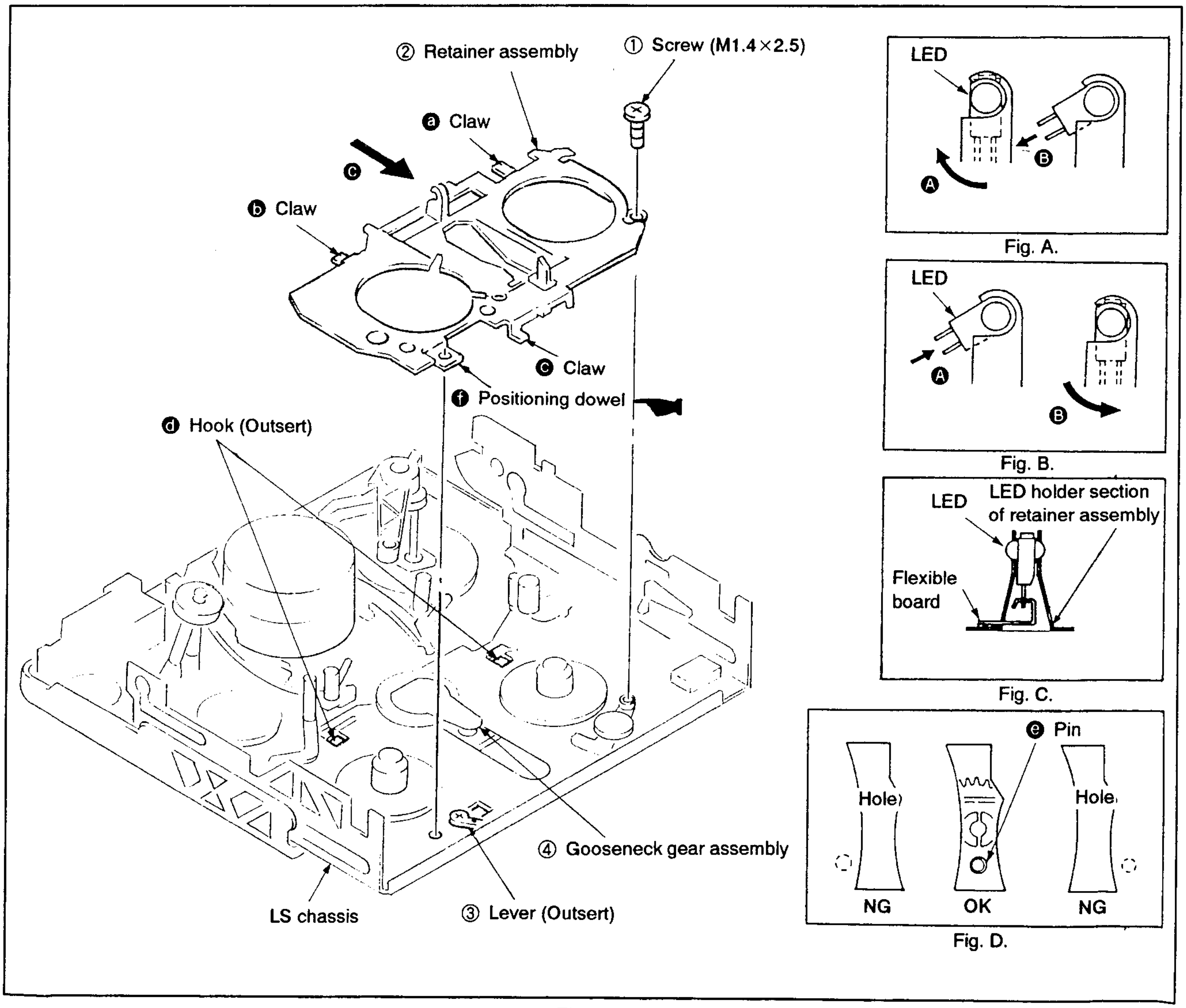

② Retainer assembly
① Screw (M1.4×2.5)
ⓐ Claw
🅒
ⓑ Claw
ⓒ Claw
ⓕ Positioning dowel
ⓓ Hook (Outsert)
④ Gooseneck gear assembly
LS chassis
③ Lever (Outsert)
LED
🅐
🅑
LED
🅐
🅑
LED
LED holder section of retainer assembly
Flexible board
ⓔ Pin
Hole
Hole
NG
OK
NG

Fig. A.

Fig. B.

Fig. C.

Fig. D.

Fig. 6.

(Original: Page 11)

3-3. T REEL TABLE ASSEMBLY (See Fig. 8.)

1. Removing

1) Set the USE mode.
2) Refer to 1-1 and remove the cassette compartment holder assembly.
3) Refer to 3-1 and remove the retainer assembly.
4) Remove the T reel table assembly ①.

Note: Hold the reel claw ※ when removing and attaching the T reel table assembly ①.

2. Attaching

1) Set the USE mode.

(DELETE)

~~2) As shown in Fig. A, apply a layer of oil on the shaft ② using a cotton stick.~~
~~**Note:** Do not apply too much.~~

3) Attach the T reel table assembly ① to the shaft ②.
4) Refer to 3-1 and attach the retainer assembly.
5) Refer to 1-1 and attach the cassette compartment holder assembly.

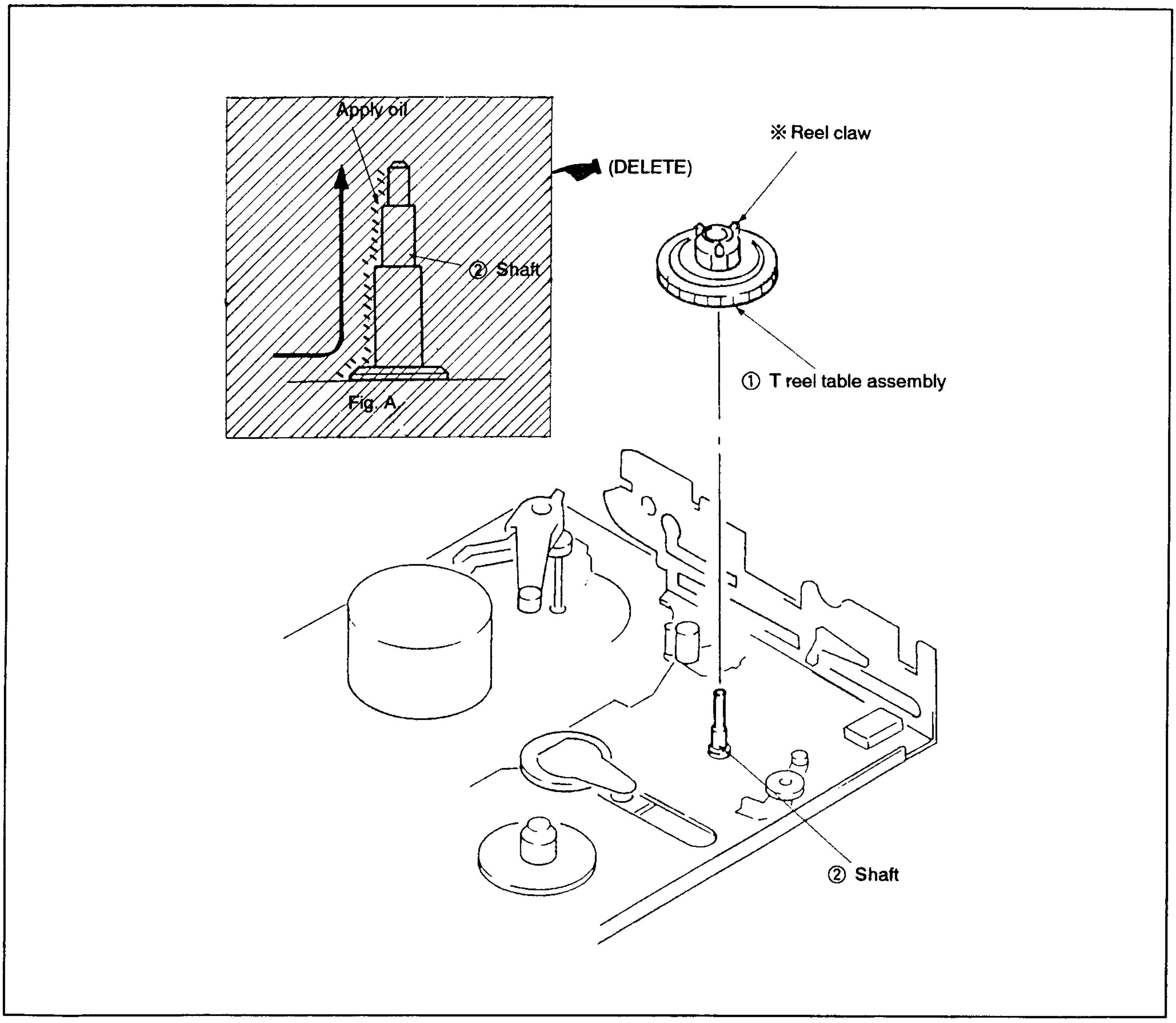

Apply oil
② Shaft
Fig. A
(DELETE)
※ Reel claw
① T reel table assembly
② Shaft

Fig. 8.

(Original: Page 12)

3-4. T SOFT GEAR ASSEMBLY, T SOFT ARM, T SOFT RELEASE ARM (See Fig. 9.)

1. Removing

1) Set the [USE] mode.
2) Refer to 1-1 and remove the cassette compartment holder assembly.
3) Refer to 3-1 and remove the retainer assembly.
4) Refer to 3-3 and remove the T reel table assembly.
5) Remove the T soft gear assembly ②.
6) Remove the tension coil spring ①.
7) Remove the T soft arm ③.
8) Rotate the T soft release arm ④ in the counterclockwise direction and remove it.

2. Attaching

1) Set the [USE] mode.
2) Attach the T soft release arm ④ and rotate it in the clockwise direction.
3) Attach the T soft arm ③.

☞ **Note:** Confirm that the Boss ⓐ is in the hole of LS chassis.

4) Attach the tension coil spring ①.
5) Attach the T soft gear assembly ②.
6) Refer to 3-3 and attach the T reel table.
7) Refer to 3-1 and attach the retainer assembly.
8) Refer to 1-1 and attach the cassette compartment holder assembly.

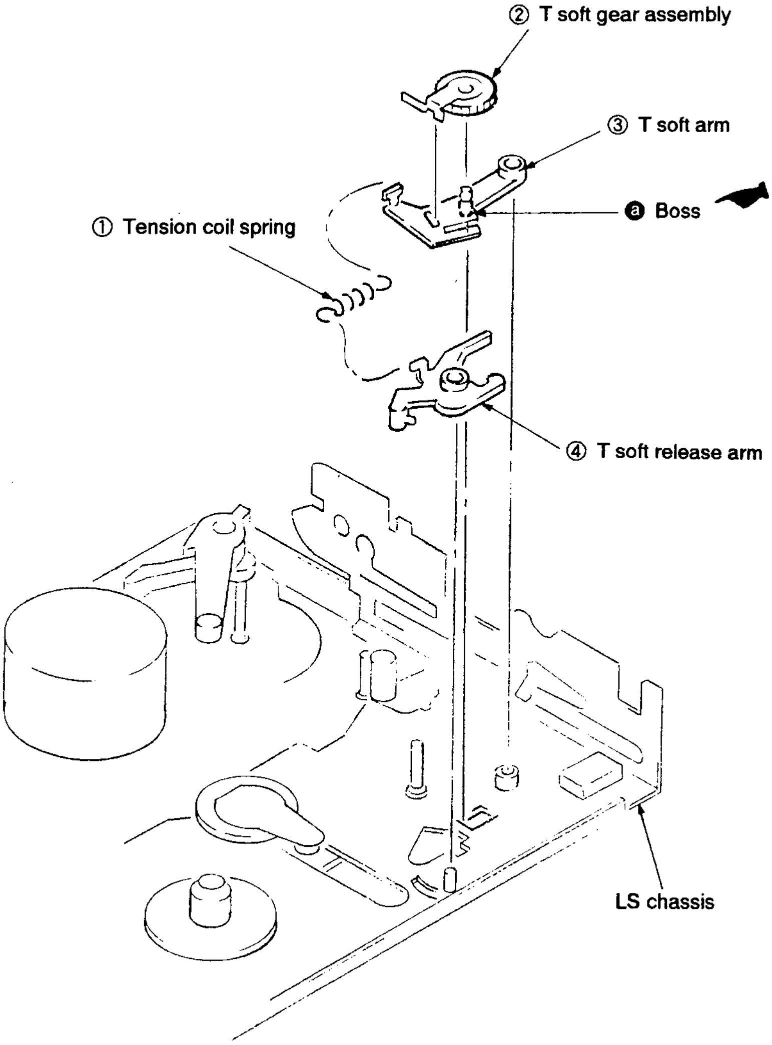


Fig. 9.

(Original: Page 14)

3-6. LS CHASSIS ASSEMBLY

1. Removing (See Fig. 11.)

1) Set the [USE] mode.
2) Refer to 1-1 and remove the cassette compartment holder assembly.
3) Refer to 3-1 and remove the retainer assembly.
4) Remove the washer ① and remove the gooseneck gear assembly ②.
5) Set the [LOAD] mode.
6) Remove the FP-317 flexible board ③. (See Fig. C.).
7) Rotate the four LS retainers in the direction of arrow 🅒 shown in Fig. B.
8) Remove the LS chassis assembly ④ in the direction of arrow 🅐.

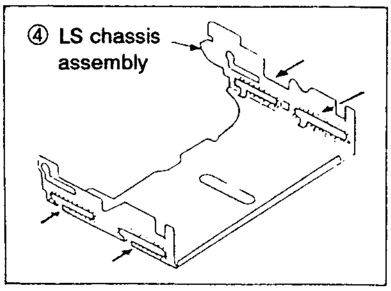

④ LS chassis assembly

Fig. A.

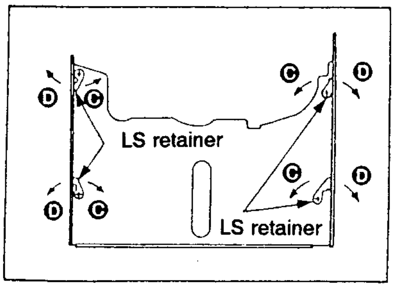
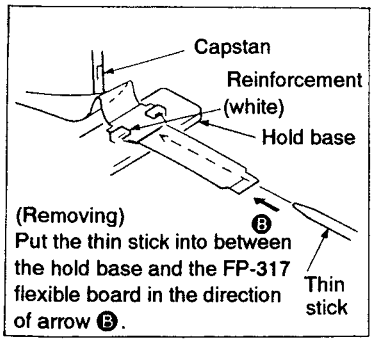

🅓
🅒
🅒
🅓
LS retainer
🅒
🅓
🅓
🅒
LS retainer

Fig. B.


Capstan
Reinforcement (white)
Hold base
🅑
Thin stick

(Removing)
Put the thin stick into between the hold base and the FP-317 flexible board in the direction of arrow 🅑.

Fig. C.

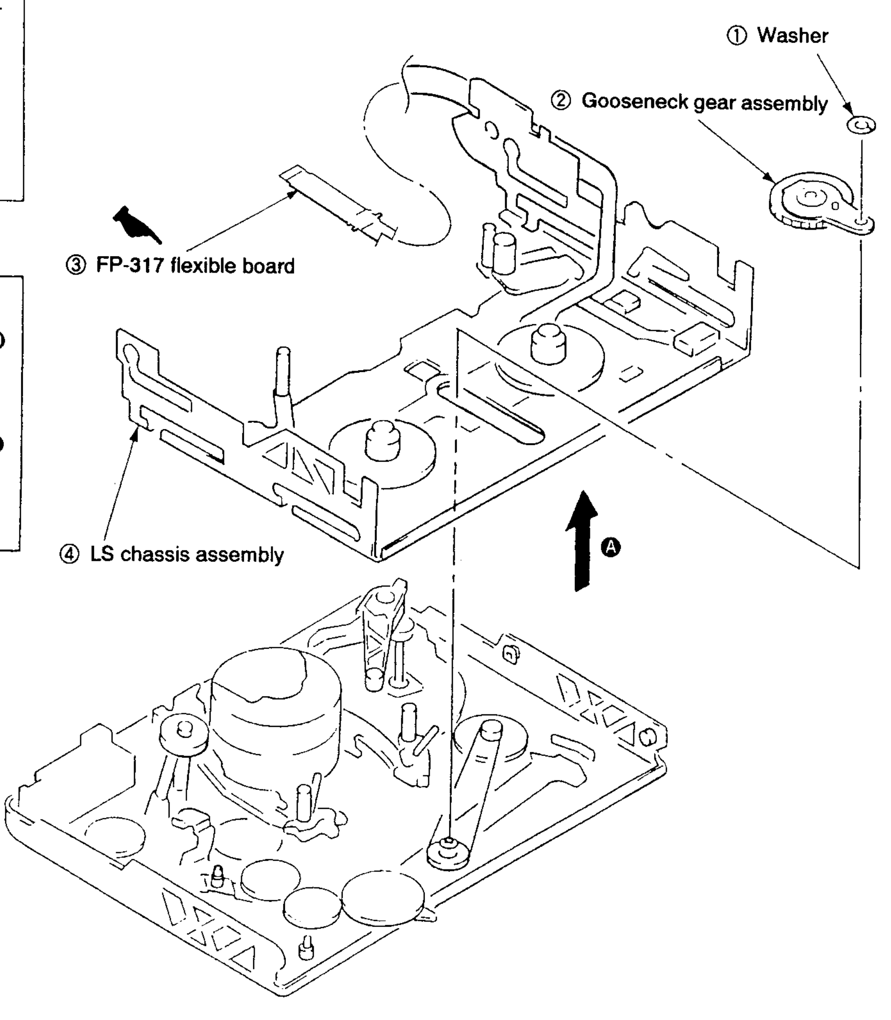

① Washer
② Gooseneck gear assembly
③ FP-317 flexible board
④ LS chassis assembly
🅐

Fig. 11.

(Original: Page 15)

2. Attaching (See Fig. 11. to 18.)

1) As shown in Fig. 11-A, apply grease (SG-941) to the punched side of the sheet metal of LS chassis assembly ④ indicated by the arrows.
2) Set the LOAD mode and start docking.
   When docking the mechanism chassis and LS chassis assembly ④, always set the following.
3) Adjust the holes for the S arm assembly and T arm assembly to the holes for the mechanism chassis. (See Fig. 12.).

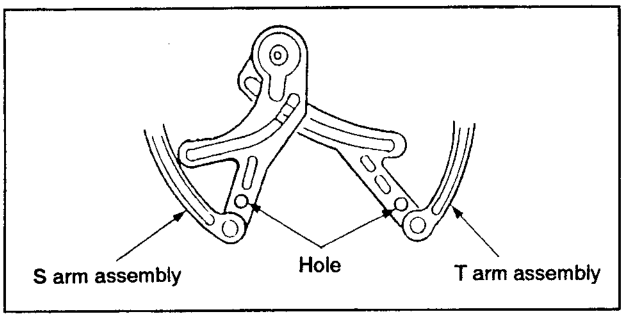

S arm assembly
Hole
T arm assembly

Fig. 12.

4) Move the TG-1 arm assembly in the arrow direction and insert the pin into the groove of the mechanism chassis. (See Fig. 13.).

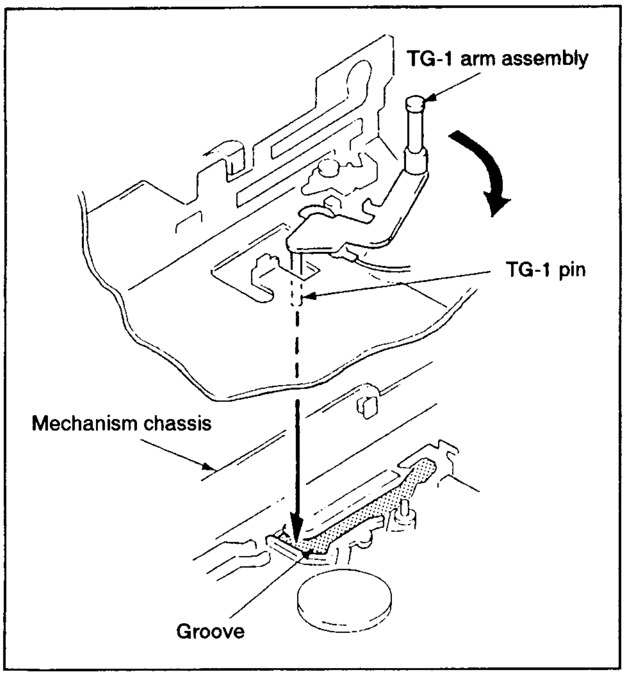

TG-1 arm assembly
TG-1 pin
Mechanism chassis
Groove

Fig. 13.

5) Attach the T soft arm. (See Fig. 14).

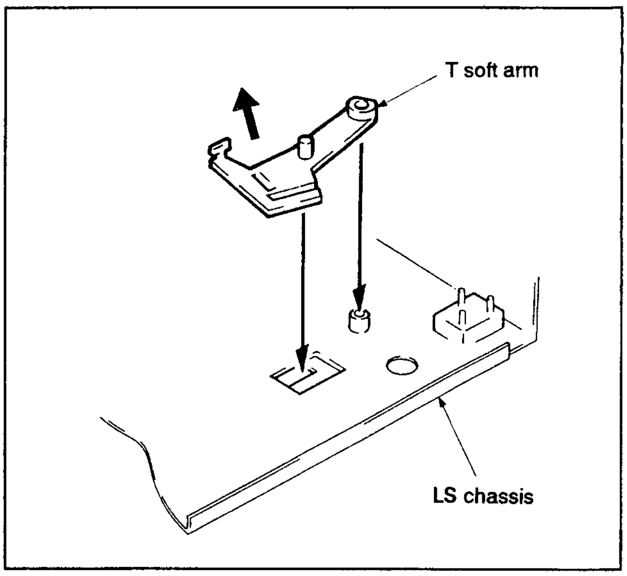

T soft arm
LS chassis

Fig. 14.

6) Move the TG-9 arm assembly in the direction of the arrow and insert the pin into the groove of the mechanism chassis. (See Fig. 15.).

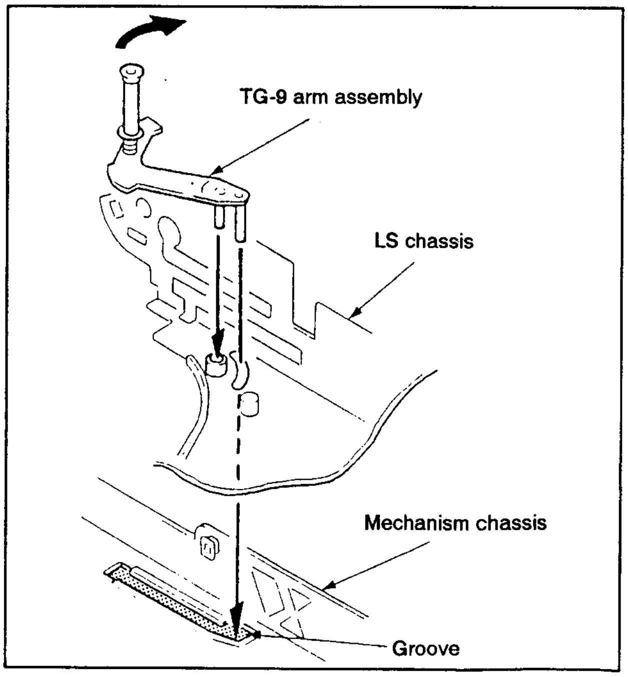

TG-9 arm assembly
LS chassis
Mechanism chassis
Groove

Fig. 15.

(Original: Page 16)

7) Move the pinch arm assembly in the direction of the arrow and insert the pin into the right side of the cam of the mechanism chassis. (See Fig. 16.).

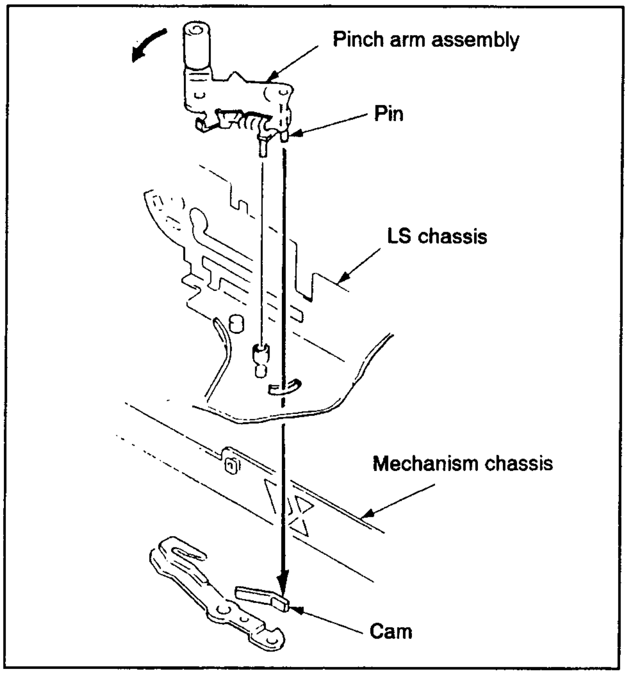

Pinch arm assembly
Pin
LS chassis
Mechanism chassis
Cam

Fig. 16.

8) While carrying out the above, adjust the guide shaft of the mechanism chassis to the notch of the LS chassis and insert it. (See Fig. 17.).

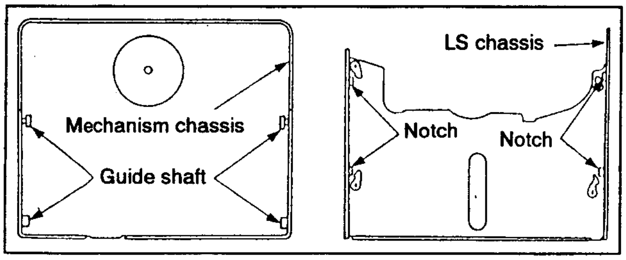

Mechanism chassis
Guide shaft
LS chassis
Notch
Notch

Fig. 17.

9) Rotate the four LS retainers in the Ⓓ direction shown in Fig. 11-B.

10) Hook the notch on the FP-317 flexible board to claws on the hold base, and adjust them with pulling in the direction of arrow. (See Fig. 18).

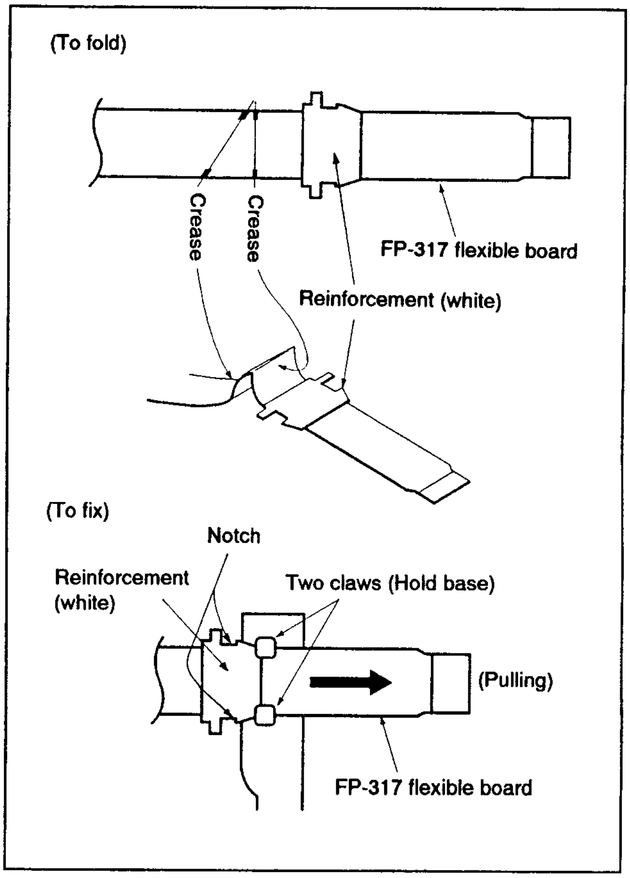

(To fold)
Crease
Crease
FP-317 flexible board
Reinforcement (white)
(To fix)
Notch
Reinforcement (white)
Two claws (Hold base)
(Pulling)
FP-317 flexible board

Fig. 18.

11) Set the USE mode.
12) Attach the gooseneck gear assembly ② and tighten with the lock washer ①.
13) Refer to 3-1 and attach the retainer assembly.
14) Refer to 1-1 and attach the cassette compartment holder assembly.

Note: Using the mode selector II (Ref No. J-14), check that loading and unloading are carried out smoothly.

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3-14. LOADING MOTOR ASSEMBLY (See Fig. 32.)

1. Removing

1) Refer to 1-1 and remove the cassette compartment holder assembly.
2) Unskate the LS chassis slightly.
3) Remove the two screws ①.
4) Remove the loading motor assembly ②.

2. Attaching

1) Attach the loading motor assembly ②.
2) Fix the two screws ①.
3) Refer to 1-1 and attach the cassette compartment holder assembly.

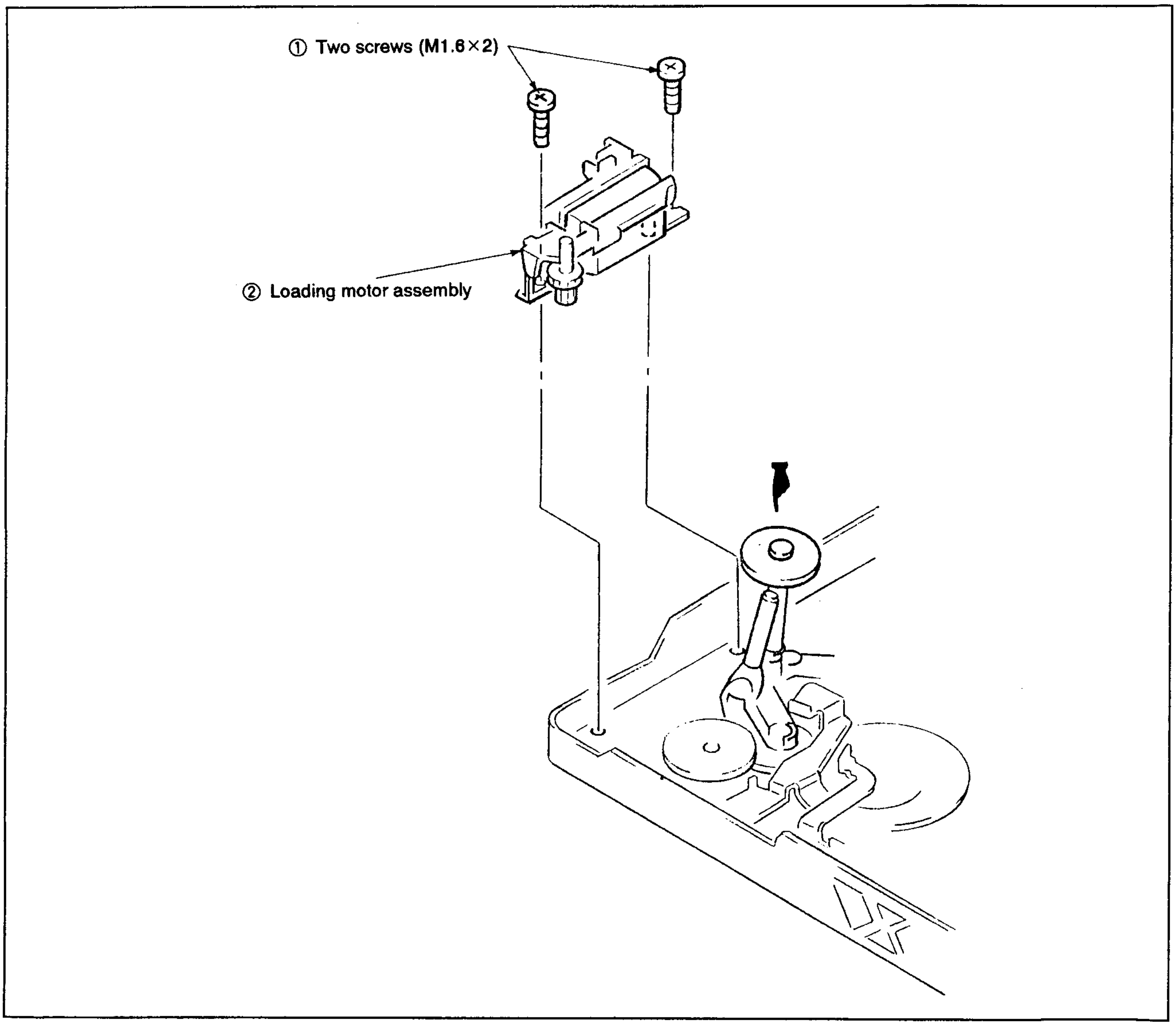

① Two screws (M1.6×2)
② Loading motor assembly

Fig. 32.

(Original: Page 24)

3-15. CAPSTAN MOTOR ASSEMBLY (See Fig. 33.)

1. Removing

1) Refer to 1-1 and remove the cassette compartment holder assembly. (It need not be removed when working in the EJECT mode because it will be lifted up in this mode.)
2) Refer to 1-2. and remove the HP arm block assembly.
3) Refer to 3-6. (Fig. 11-C) and remove the FP-317 flexible board.
4) Set the LS chassis from USE to EJECT.
5) Disconnect the flexible board ③ from the connector ② of the capstan motor assembly ①. (Fig. A.)
6) Remove the two screws ④ and the hexagonal nut ⑤.

Note: Before removing the hexagonal nut ⑤, mark it and the mechanism chassis as shown in Fig. C. (To attach the capstan motor assembly ① at approximately the same height as before it was removed, when attaching the hexagonal nut ⑤.)

7) Lift up the capstan motor assembly ① vertically and remove it.

2. Attaching

1) Adjust so that the gear of the conversion gear assembly ⑥ and the gear of the capstan motor assembly ① engage. Then insert CM guide shaft A ⑦ into the hole of the capstan motor assembly ①.
   Be careful not to scratch the gears. (Fig. B.)
2) Tighten the two screws ④ with a 0.0686 N • m (0.7 kg • cm) tightening torque.
3) Screw the hexagonal nut ⑤ onto CM guide shaft A ⑦ until the third ring of the shaft is above it, and adjust the mark on the nut to that on the mechanism chassis.
4) After attaching the two screws ④ and hexagonal nut ⑤, check that the capstan motor assembly ① is attached parallel to the bottom of the mechanism chassis.
5) Insert the capstan flexible board ③ into the connector ②. Push the reinforce plate ⑧ directly. (Fig. A.)
6) Refer to 3-6. (Fig. 18) and attach the FP-317 flexible board.
7) Refer to 1-2. and attach the HP arm block assembly.
8) Refer to 1-1. and attach the cassette compartment holder assembly.

Note: After attaching, attach each board, load the tape, and carry out the CUE and REV checks. Check that the tape does not become slack while running.

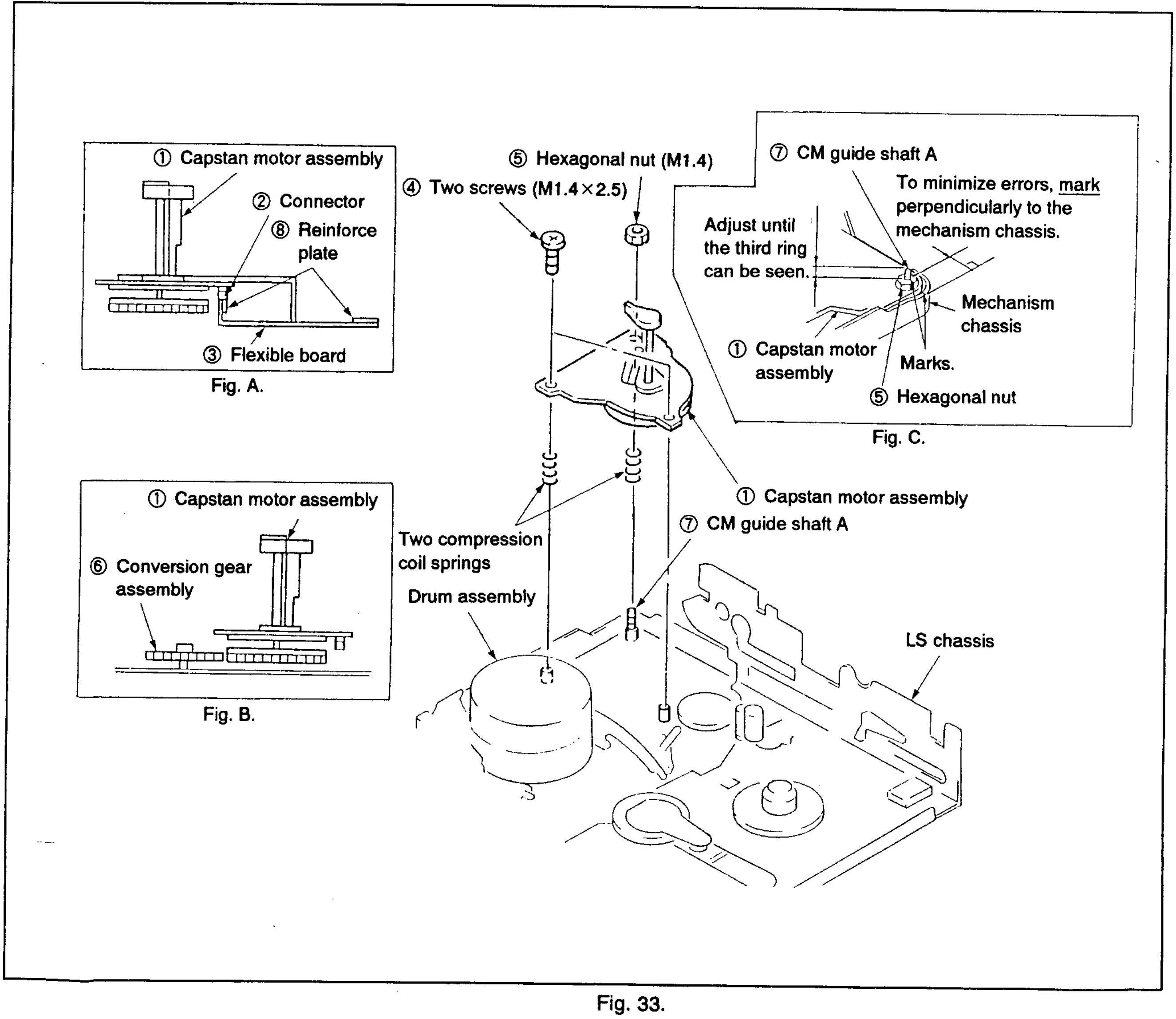

① Capstan motor assembly
② Connector
⑧ Reinforce plate
③ Flexible board
⑤ Hexagonal nut (M1.4)
④ Two screws (M1.4×2.5)
⑦ CM guide shaft A
To minimize errors, mark perpendicularly to the mechanism chassis.
Adjust until the third ring can be seen.
Mechanism chassis
① Capstan motor assembly
Marks.
⑤ Hexagonal nut
① Capstan motor assembly
⑥ Conversion gear assembly
Two compression coil springs
Drum assembly
① Capstan motor assembly
⑦ CM guide shaft A
LS chassis

Fig. A.

Fig. B.

Fig. C.

Fig. 33.

(Original: Page 25)

3-16. DRUM BASE ASSEMBLY (See Fig. 34.)

1. Removing

1) Refer to 3-6 and remove the LS chassis assembly.
2) Refer to 1-2. and remove the HP arm block assembly.
3) Remove the motor flexible board ① from the PC board.
4) Remove the five screws ② and ground spring ③.
5) Pull out the head flexible board ④ from the hole of the mechanism chassis carefully to avoid scratching it. Then remove the drum base assembly ⑤.

2. Attaching

1) Insert the head flexible board ④ into the hole of the mechanism chassis and adjust the two positioning holes ⑥ of the drum base assembly ⑤ to the two dowels of the mechanism chassis.
2) Tighten the five screws ② with a 0.0686N • m (0.7 kgf • cm) tightening torque.

Note: Take care not to forget to put in the ground spring ③.

3) Attach the motor flexible board ① to the PC board.
4) Refer to 1-2. and attach the HP arm block assembly.
5) Refer to 3-6 and attach the LS chassis assembly.

Note: After attaching, carry out "4. TAPE PATH ADJUSTMENT".

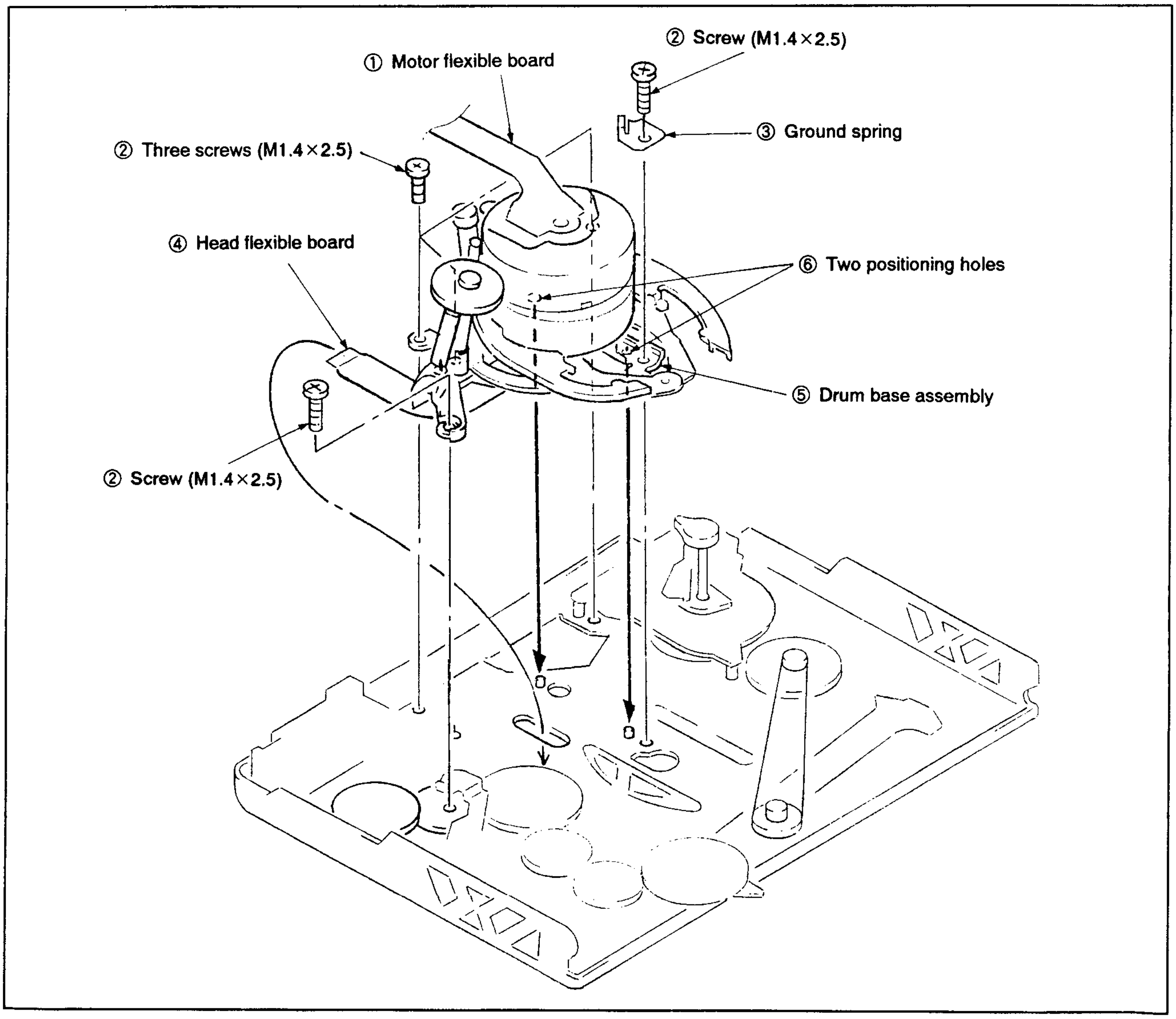

② Screw (M1.4×2.5)
① Motor flexible board
③ Ground spring
② Three screws (M1.4×2.5)
④ Head flexible board
⑥ Two positioning holes
⑤ Drum base assembly
② Screw (M1.4×2.5)

Fig. 34.

(Original: Page 33)

4-2. TRACKING ADJUSTMENT (See Fig. 43.)

1) Playback the tracking alignment tape.
2) Rotate the No. 4 guide and flatten the waveform at the entrance.
3) Rotate the No. 6 guide and flatten the waveform at the exit.

The TG-4 and TG-6 gate adjusting screws need not be adjusted.

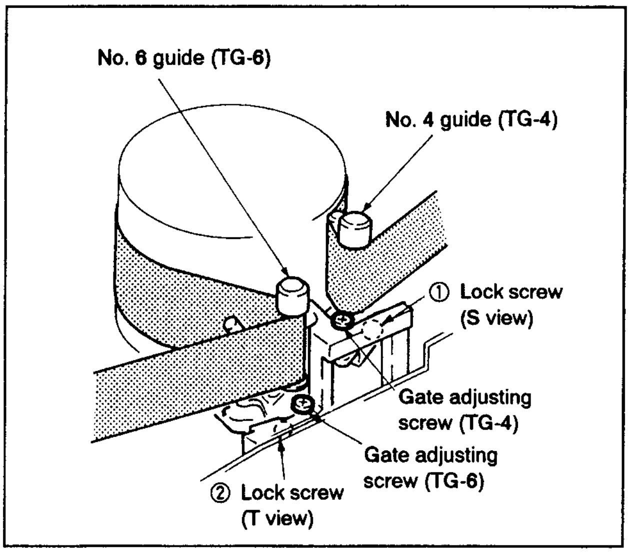


Fig. 43.

4-3. NO.3 GUIDE (TG-3) ADJUSTMENT

When replacing the entire guide base, its height is preset.

TG-3 Guide Height Preset (See Fig. 44.)

1) The preset height is when the distance between the top of the TG-3 base and the lower flange of TG-3 is 2.6 mm.

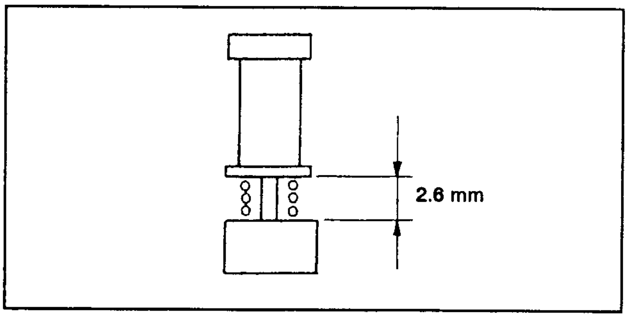


Fig. 44.

No. 3 Guide (TG-3) Adjustment

1) Playback the tracking alignment tape.
2) In the FWD mode, check that the tape runs along the lower flange of TG-3. If there is a clearance between the two, rotate TG-3 in the counterclockwise direction so that the tape runs along the lower flange of TG-3. Rotating angle must be within 180 °.
   Check that the tracking waveform (Fig. 45.) does not change during this procedure.
   If the tracking waveform at the entrance is turning downwards as shown in Fig. 46, raise the height of TG-3 and adjust the tracking at the entrance.

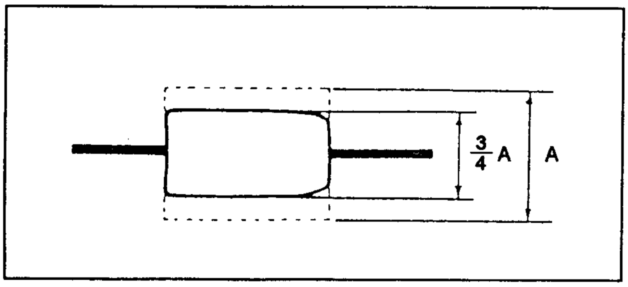


Fig. 45.

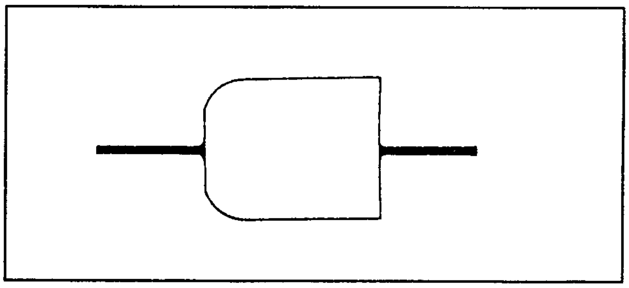


Fig. 46.

After adjusting the tracking at the entrance, set the REV mode. If the tape is curled at the lower flange of TG-3, rotate TG-3 in the clockwise direction to correct the curl.

<CORRECTION>

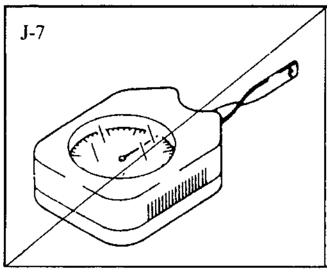
(Original: Page 8)

2-4. SERVICE JIGS LIST

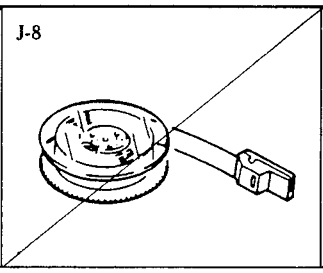
(DELETE)

Ref. No.	Name	Part No.	Fixture No.	Usage, Others
J-7	Dial tension gauge	J-6080-827-A		Various torque measurement
J-8	Tension measurement reel	J-6080-831-A		With ϕ 30 tape
J-9	Tension measurement reel	J-6080-832-A		With ϕ 16 string

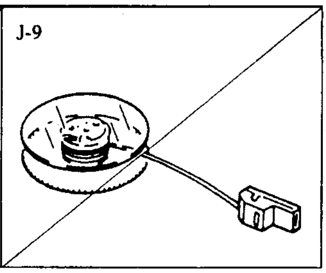
J-7



J-8



J-9



DELETE
(not used)

8mm VIDEO MECHANICAL ADJUSTMENT MANUAL VI

English
96D09120-1

Sony Corporation

Consumer A&V Products Company
Personal A&V Products Div.

9-973-446-82

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Published by Personal A&V Products Div.
Quality Engineering Dept.

Printed by: Schaltungsdienst Lange, Berlin (GERMANY)

32044

V16066

CCD-SC55/SC55E

RMT-715/716

SERVICE MANUAL

US Model
Canadian Model
CCD-SC55
AEP Model
UK Model
Australian Model
CCD-SC55E
E Model
Hong Kong Model
CCD-SC55/SC55E

video Hi8
Handycam

T2 MECHANISM

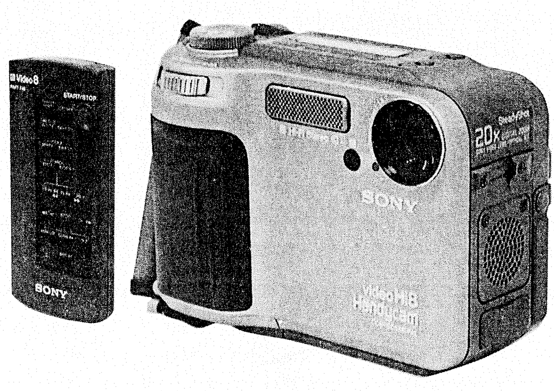

Photo : CCD-SC55E
: RMT-716

NTSC : CCD-SC55
PAL : CCD-SC55E

For MECHANISM ADJUSTMENTS, refer to the "8mm Video MECHANICAL ADJUSTMENT MANUAL VIII" (9-973-886-11).

SPECIFICATIONS

Video camera recorder

System

Video recording system
Four rotary heads, Helical scanning FM system

Audio recording system
Rotary heads, FM system

Video signal
PAL colour, CCIR standards

Usable cassette
8 mm video format cassette (Hi8 or standard 8 mm)

Recording/playback time
SP mode: 1.5 hours (E5/P5-90)
LP mode: 3 hours (E5/P5-90)

Fastforward/rewind time
Approx. 8 min. (E5/P5-90)

Image device
CCD (Charge Coupled Device)

Lens
Combined power zoom lens, 20x (Digital), 10x (Optical)

Focal distance
f = 4.2 to 42 mm
(3/16 to 1 11/16 in.)
(48 to 480 mm (1 15/16 to 19 in.) when converted into a 35 mm still camera)
F 1.8 – 2.9
TTL autofocus system inner focus wide macro system

Colour temperature
Auto

Minimum illumination *
4 lux at F 1.8

Illumination range
4 to 100,000 lux

Recommended illumination
More than 100 lux

* Minimum illumination expresses the light level a camcorder requires to produce a picture.

LCD screen

Picture
3 inches measured diagonally
59.5 x 43.2 mm (2 3/8 x 1 3/4 in.)

On-screen display
TN LCD/TFT active matrix method

Total dot number
89,856 (384 x 234)

Input and output connectors

S video output/monitor input
4-pin mini DIN
Luminance signal: 1 Vp-p, 75 Ω, unbalanced, sync negative
Chrominance signal : 0.3 Vp-p, 75 Ω, unbalanced

Video output/monitor input
Special minijack, 1 Vp-p, 75 Ω, unbalanced, sync negative

Audio output/monitor input
327 mV, (at output impedance more than 47 kΩ)

Headphones jack
Stereo minijack (ø 3.5 mm)

MIC jack
Stereo minijack, 0.388 mV low impedance with 2.3 to 2.75 V DC, input impedance 6.8 kΩ (ø 3.5 mm)

Speaker
Dynamic-speaker

Connection
26-pin connector

General

Power requirements
7.2 V (battery insertion input)
8.4 V (26-pin connector)

Average power consumption
5.3 W during camera recording

Operating temperature
0°C to 40°C (32°F to 104°F)

Storage temperature
–20°C to +60°C (–4°F to +140°F)

Dimensions
Approx. 140 x 101 x 76 mm (w/h/d) (5 5/8 x 4 x 3 in.)

Mass
Approx. 660 g (1 lb 7 oz) excluding the battery pack NP-F530, lithium battery, cassette, and shoulder strap
Approx. 800 g (1 lb 12 oz) including the battery pack NP-F530, lithium battery, cassette E5/P5-90, and shoulder strap

Microphone
Electric condenser microphone, Stereo type

Supplied accessories
See page 1-1

— Continued on next page —

MICROFILM

Hi8 VIDEO CAMERA RECODER

SONY®

AC power adaptor

Power requirements
100 to 240 V AC, 50/60 Hz
Power consumption
22 W
Output voltage
DC OUT: 8.4 V, 1.8 A in operating mode
Battery charge terminal: 8.4 V, 1.4 A in charge mode
Application
Sony battery pack NP-F530 lithium ion type
Operating temperature
0°C to 40°C (32°F to 104°F)
Storage temperature
–20°C to +60°C (–4°F to +140°F)
Dimensions (Approx.)
56 x 44 x 107 mm
(2 3/16 x 1 3/4 x 4 3/16 in.) (w/h/d)
Mass (Approx.)
190 g (6.7 oz)

Design and specifications are subject to change without notice.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.
6. Flexible Circuit board Repairing
    - Keep the temperature of the soldering iron around 270°C during repairing.
    - Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
    - Be careful not to apply force on the conductor when soldering or unsoldering.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

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There is the color reproduction standard frame at the back of the book.

SECTION 1 GENERAL

This section is extracted from CCD-SC55E instruction manual.

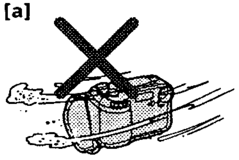
Precautions on camcorder care

- Do not let sand get into the camcorder. When you use the camcorder on a sandy beach or in a dusty place, protect it from the sand or dust. Sand or dust may cause the unit to malfunction, and sometimes this malfunction cannot be repaired [a].
- Do not let the camcorder get wet. Keep the camcorder away from rain and sea water. Letting the camcorder get wet may cause the unit to malfunction, and sometimes the malfunction cannot be repaired [b].
- Never leave the camcorder exposed to temperatures above 60°C (140°F), such as in a car parked in the sun or under direct sunlight [c].

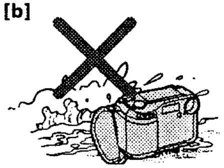
Precauciones sobre el cuidado de la videocámara

- Impida que entre arena en la videocámara. Si utiliza la videocámara en playas de arena o en lugares polvorientos, protéjala de la arena y el polvo. La arena y el polvo pueden provocar anomalías en el funcionamiento de la unidad que a veces no pueden repararse [a].
- Impida que la videocámara se moje. Manténgala alejada de la lluvia y el agua del mar. El agua puede ocasionar anomalías en el funcionamiento de la unidad que a veces no pueden repararse [b].
- No deje nunca la videocámara expuesta a temperaturas superiores a 60°C (140°F), como en un automóvil aparcado al sol o bajo la luz solar directa [c].

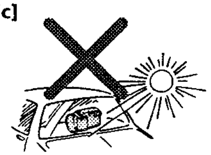
[a]



[b]



[c]



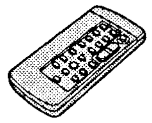
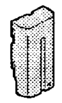
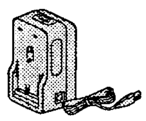
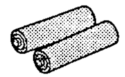
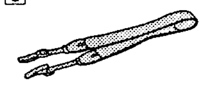
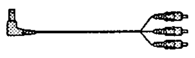
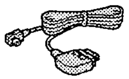
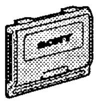
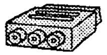
Checking supplied accessories

Comprobación de accesorios suministrados

Check that the following accessories are supplied with your camcorder.

Compruebe que con la cámara se suministran los siguientes accesorios.

Supplied accessories

[1] 	[2] 	[3] 
[4] 	[5] 	[6] 
[7] 	[8] 	[9]  (CCD-SC55E (AEP, UK))

[1] Wireless Remote Commander (1)
RMT-715 SC55/SC55E : E, Australian, Hong Kong
RMT-716 SC55E : AEP, UK

[2] NP-F530 battery pack (1)

[3] AC-V615 AC power adaptor (1)
The shape of the plug varies from region to region.

[4] R6 (size AA) battery for Remote Commander (2)

[5] Shoulder strap (1)

[6] A/V connecting cable (1)

[7] DK-626 connecting cord (1)

[8] Sunshade (1)

[9] 21-pin adaptor (1)
(CCD-SC55E : AEP, UK only)

Contents of the recording cannot be compensated if recording or playback is not made due to a malfunction of the camcorder, video tape, etc.

Getting started

Charging and installing the battery pack

Before using your camcorder, you first need to charge and install the battery pack. To charge the battery pack, use the supplied AC power adaptor.
This camcorder operates with the InfoLITHIUM battery pack such as the NP-F530. Do not use any other battery pack to operate your camcorder.

"InfoLITHIUM" is a trademark of Sony Corporation.

Charging the battery pack

(1) Connect the mains lead to the AC power adaptor.
(2) Align the surface of the battery pack indicated by the ▶ mark with the edge of the terminal shutter of the AC power adaptor. Then fit and slide the battery pack in the direction of the arrow.
(3) Connect the AC power cord to mains. The CHARGE lamp (orange) lights up. Charging begins.

When the CHARGE lamp goes out, normal charge is completed (**Normal charge**). For a full charge, which allows you to use the battery longer than usual, leave the battery pack in place for approximately one hour (**Full charge**).
Unplug the cord from the mains, then remove the battery pack and install it into the camcorder.
You can also use the battery pack before it is completely charged.

Puesta en marcha

Carga e instalación del paquete de baterías

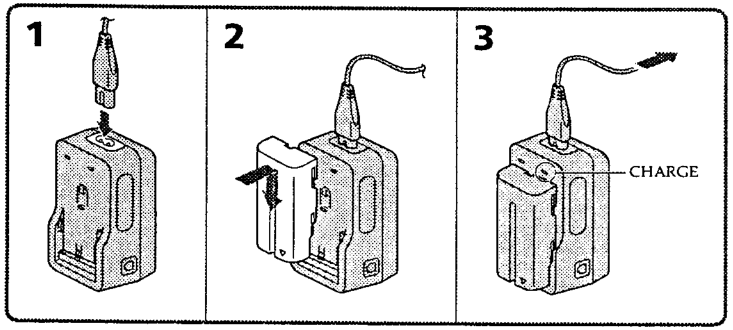
Antes de emplear la videocámara, primero es necesario cargar e instalar el paquete de baterías. Para cargarlo, utilice el adaptador de alimentación de CA suministrado.
Esta videocámara funciona con el paquete de baterías InfoLITHIUM, como el modelo NP-F530. No emplee otro tipo de paquete de baterías con la videocámara.

"InfoLITHIUM" es una marca comercial de Sony Corporation.

Carga del paquete de baterías

(1) Conecte el cable de alimentación al adaptador de alimentación de CA.
(2) Alinee la superficie del paquete de baterías indicada por la marca ▶ con el borde del terminal del obturador situado en el adaptador de alimentación de CA. A continuación ajuste y deslice el paquete de baterías en la dirección de la flecha.
(3) Conecte el cable de alimentación de CA a una toma de red. Se iluminará el indicador CHARGE (naranja) y comenzará la carga.

El indicador CHARGE se apaga cuando el proceso normal de carga finaliza (**carga normal**). Para una carga total, que permite usar la batería durante más tiempo del habitual, deje el paquete de baterías cargando durante aproximadamente una hora (**carga total**). Desenchufe el cable de la toma de red, retire el paquete de baterías e instálelo en la videocámara. El paquete de baterías también puede utilizarse antes de estar totalmente cargado.



Charging time

Battery pack	Charging time *
NP-F530 (supplied)	170 (110)

Numbers in parentheses indicate the time for a normal charge. (**Normal charge**)
* Approximate number of minutes to charge an empty battery pack fully using the supplied AC power adaptor. (**Full charge**) (Lower temperatures require a longer charging time.)

Battery life

Battery pack	Continuous recording time **	Typical recording time ***	Playing time on LCD
NP-F530 (supplied)	90 (80)	55 (50)	95 (85)

Numbers in parentheses indicate the time when you use a normal charged battery pack.
** Approximate continuous recording time indoors
*** Approximate number of minutes when recording with repeated recording start/stop, standby, zooming and turning the power on/off. The actual battery life may be shorter.

Notes on remaining battery time indication during recording
- When using the NP-F530 battery pack, remaining battery time is displayed on the LCD screen. It may not be displayed properly, however, depending on the conditions and circumstances of use.
- Once you close the sunshade, it takes about 2 minutes for the correct remaining time to be displayed after the sunshade is opened again.

Tiempo de carga

Paquete de baterías	Tiempo de carga *
NP-F530 (suministrado)	170 (110)

Los números entre paréntesis indican el tiempo de carga normal. (**carga normal**)
* Minutos aproximado necesarios para cargar un paquete de baterías agotado mediante el adaptador de alimentación de CA suministrado. (**carga total**) (A temperaturas más bajas es preciso un tiempo de carga más prolongado.)

Duración de la batería

Paquete de baterías	Tiempo de grabación continua **	Tiempo de grabación típica ***	Tiempo de reproducción en LCD
NP-F530 (suministrado)	90 (80)	55 (50)	95 (85)

Los números entre paréntesis indican el tiempo cuando se utiliza un paquete de pilas con carga normal.
** Tiempo aproximado de grabación continua de interiores
*** Número aproximado de minutos cuando se graba con operaciones repetidas de inicio/detención de la grabación, modo de espera, zoom y encendido y apagado de la unidad. La duración real de la batería puede ser inferior.

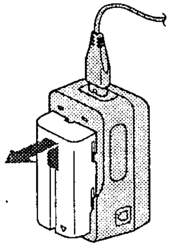
Notas sobre la indicación de tiempo restante de la batería durante la grabación
- Cuando se usa el paquete de baterías NP-F530, la pantalla LCD muestra el tiempo restante de la batería. Sin embargo, la indicación puede ser incorrecta según las condiciones y circunstancias de uso.
- Una vez cerrado el toldo, la unidad tarda unos 2 minutos en mostrar el tiempo restante correcto después de volver a abrir el toldo.

To remove the battery pack

Slide the battery pack in the direction of the arrow.

Para retirar el paquete de baterías

Deslice el paquete de baterías en la dirección de la flecha.



Notes on charging the battery pack

- The CHARGE lamp will remain lit for a while even if the battery pack is removed and the mains lead is unplugged after charging the battery pack. This is normal.
- If the CHARGE lamp does not light, disconnect the mains lead. After about one minute, reconnect the mains lead again.
- You cannot charge the battery pack while operating the camcorder using the AC power adaptor.
- When a fully charged battery pack is installed, the CHARGE lamp will light once, then go out.

Notas sobre la carga del paquete de baterías

- El indicador CHARGE permanece iluminado unos momentos incluso si se ha retirado el paquete de baterías y se ha desenchufado el cable de alimentación después de cargar el paquete de baterías. Es normal.
- Si el indicador CHARGE no se ilumina, desconecte el cable de alimentación. Vuelva a conectarlo después de aproximadamente un minuto.
- No es posible cargar el paquete de pilas mediante el adaptador de alimentación de CA mientras se utiliza la videocámara.
- Cuando se instala un paquete de baterías totalmente cargado, el indicador CHARGE se ilumina una vez y luego se apaga.

Charging and installing the battery pack

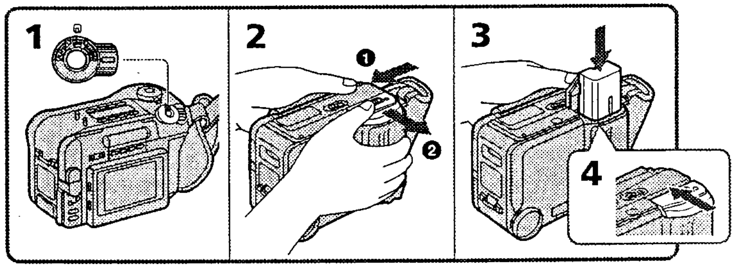
Carga e instalación del paquete de baterías

Installing the battery pack

(1) Set the POWER switch to OFF to prevent misoperation of the camcorder.
(2) To open the lid of the battery compartment, slide the OPEN (BATT) release lever at the bottom of the camcorder toward you, then slide it to the right and release your hands.
(3) Insert the battery pack in the direction of the arrow.
(4) Close the lid and slide it to the left until it clicks.

Instalación del paquete de baterías

(1) Ajuste el interruptor POWER en OFF para evitar el funcionamiento incorrecto de la videocámara.
(2) Para abrir la tapa del compartimiento de la batería, deslice la palanca de liberación OPEN (BATT), situada en la parte inferior de la videocámara, hacia afuera; a continuación, deslícela a la derecha y suelte las manos.
(3) Inserte el paquete de baterías en la dirección de la flecha.
(4) Cierre la tapa y deslícela hacia la izquierda hasta que oiga un chasquido.

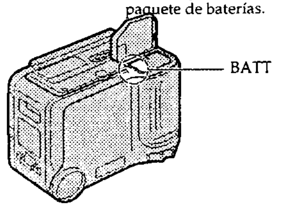


To remove the battery pack

Open the lid of the battery compartment. Then release the BATT release lever, and remove the battery pack.

Extracción del paquete de baterías

Abra la tapa del compartimiento de la batería. Suelte la palanca de liberación BATT y retire el paquete de baterías.



When removing battery pack

Always keep the lid of the battery compartment at the bottom of the camcorder upright so that the battery pack does not fall out when you open the lid.

Al retirar el paquete de baterías

Mantenga siempre la tapa del compartimiento de la batería, situada en la parte inferior de la videocámara, en posición vertical para que el paquete de baterías no se caiga al abrirla.

Inserting a cassette

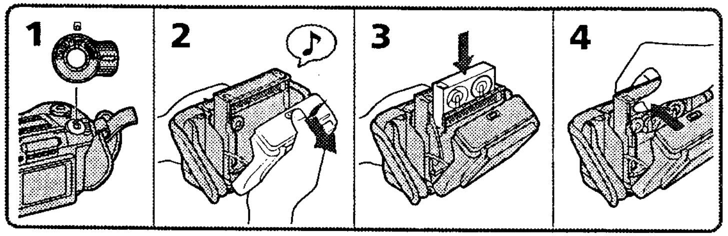
Make sure that the power source is installed.
When you want to record in the Hi8 system, use Hi8 video cassette **Hi8**.

(1) Set the POWER switch to OFF.
(2) Slide OPEN (CASSETTE) on the bottom of the camcorder in the direction of the arrow. The cassette compartment automatically lifts up and opens.
(3) Insert a cassette with the window facing out.
(4) Close the cassette compartment by pressing the PUSH/⏏ mark on the cassette compartment. The cassette compartment automatically goes down.
(5) Close the lid until it clicks.

Inserción de videocassettes

Cerciórese de haber instalado la fuente de alimentación. Cuando desee grabar en el sistema Hi8, utilice videocassettes **Hi8**.

(1) Ajuste el interruptor POWER en OFF.
(2) Deslice OPEN (CASSETTE), situado en la parte inferior de la videocámara, en la dirección de la flecha. El compartimiento del videocassette se elevará y se abrirá automáticamente.
(3) Inserte un videocassette con la ventana hacia afuera.
(4) Cierre el compartimiento del videocassette presionando la marca PUSH/⏏ del compartimiento del videocassette. Este descenderá automáticamente.
(5) Cierre la tapa hasta que oiga un chasquido.

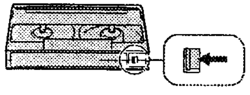


To eject the cassette
Slide OPEN (CASSETTE) outward.

To prevent accidental erasure
Slide the tab on the cassette to expose the red mark. If you insert the cassette with the red mark exposed and close the cassette compartment, the beeps sound for a while. If you try to record with the red mark exposed, the ⊠ and ⏏ indicators flash on the LCD screen, and you cannot record. To re-record on this tape, slide the tab back out covering the red mark.

Para extraer el videocassette
Deslice OPEN (CASSETTE) hacia afuera.

Para evitar borrados accidentales
Deslice la lengüeta del videocassette hasta que la marca roja quede al descubierto. Si inserta el videocassette con la marca roja al descubierto y cierra el compartimiento del videocassette, sonará un pitido durante unos momentos. Si intenta grabar con la marca roja al descubierto, los indicadores ⊠ y ⏏ parpadearán en la pantalla LCD y no podrá grabar. Para volver a grabar en esta cinta, deslice la lengüeta otra vez hacia afuera hasta ocultar la marca roja.



Using the sunshade

The supplied sunshade for the LCD screen reduces glare from the LCD screen. It also protects the LCD screen from dust and fingerprints when you are not viewing the screen.

Attaching the sunshade [a]
Align the tabs on the camcorder with the ones on the sunshade, and slide the sunshade down until it clicks.

Using the sunshade [b]
Lift the sunshade cover.

Note on using the sunshade
The sunshade has a magnet, so keep magnetic cards, etc., away from the sunshade.

Uso del toldo

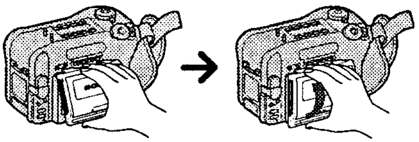
El toldo suministrado para la pantalla LCD reduce los brillos que procedan de ella. También la protege de polvo y huellas dactilares cuando no se utiliza.

Fijación del toldo [a]
Alinee las lengüetas de la videocámara con las del toldo y deslícelo hacia abajo hasta que se ajuste.

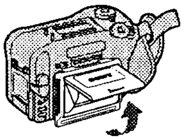
Uso del toldo [b]
Eleve la cubierta del toldo.

Nota sobre el uso del toldo
El toldo contiene un imán, por lo que debe mantener las tarjetas magnéticas, etc., alejadas de él.

[a]



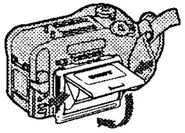
[b]



Shutting the sunshade [c]
While pressing both sides of the sunshade, press the sunshade cover in the direction of the arrow. When the sunshade is shut, the LCD screen turns off automatically and no sound comes out from the speaker.

Cierre del toldo [c]
Presione la cubierta del toldo en la dirección de la flecha mientras lo sujeta a ambos lados. Una vez cerrado el toldo, la pantalla LCD se apagará automáticamente y el altavoz no emitirá ningún sonido.

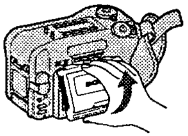
[c]



Detaching the sunshade [d]
First unhook the lower tab of the sunshade, then detach the sunshade by pulling it out in the direction of the arrow.

Extracción del toldo [d]
Desenganche primero la lengüeta inferior del toldo y después retírelo tirando de él hacia afuera en la dirección de la flecha.

[d]



Basic operations

Camera recording

Make sure that the power source is installed and a cassette is inserted. When you use the camcorder for the first time, power on it and reset the date and time before you start recording (p. 70).
Before you record one-time events, you may want to make a trial recording to make sure that the camcorder is working correctly.

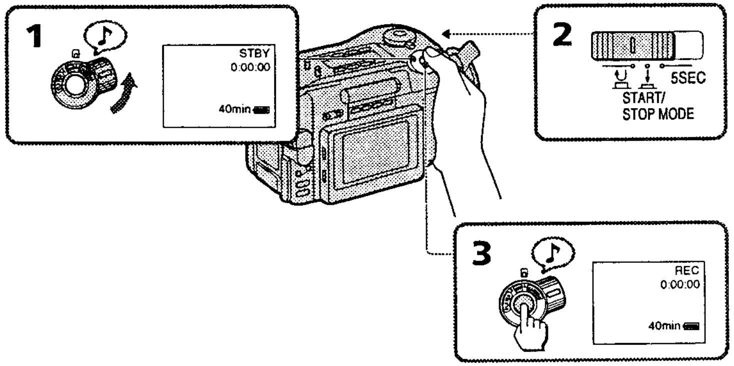
(1) While pressing the small green button on the POWER switch, set it to CAMERA. The camcorder is set to Standby mode.
(2) Slide START/STOP MODE to ⊻.
(3) Press START/STOP. The camcorder starts recording. The "REC" indicator appears on the LCD screen. The camera recording lamps on the front and back of the camcorder also light up.

Operaciones básicas

Grabación con la cámara

Cerciórese de haber instalado la fuente de alimentación y de haber insertado un videocassette. Cuando utilice la videocámara por primera vez, enciéndala y reajuste la fecha y la hora antes de empezar a grabar (p. 70).
Antes de grabar eventos únicos, quizá desee realizar una grabación de prueba para asegurarse de que la videocámara funciona correctamente.

(1) Ajuste el interruptor POWER en CAMERA mientras pulsa el botón verde pequeño del interruptor. La videocámara quedará ajustada en modo de espera.
(2) Deslice START/STOP MODE hasta ⊻.
(3) Pulse START/STOP. La videocámara empezará a grabar. La pantalla LCD mostrará el indicador "REC". También se iluminarán los indicadores de grabación de la parte frontal y trasera de la videocámara.



To stop recording momentarily [a]

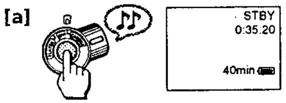
Press START/STOP. The "STBY" indicator appears on the LCD screen (**Standby mode**).

Para detener momentáneamente la grabación [a]

Pulse START/STOP. La pantalla LCD mostrará el indicador "STBY" (**modo de espera**).

To finish recording [b]

Press START/STOP again to stop recording. Set the POWER switch to OFF. Then, eject the cassette and remove the battery pack.



Note on Standby mode

If you leave the camcorder in Standby mode for 5 minutes while the cassette is inserted, the camcorder turns off automatically. This prevents wearing down the battery and wearing out the tape. To resume Standby mode, while pressing the small green button on the POWER switch, set it to OFF once, and then to CAMERA. To start recording, press START/STOP.

Note on recording

When you record from the beginning of a tape, run the tape for about 15 seconds before starting the actual recording. This will ensure that you will not miss any start-up scenes when you play back the tape.

Notes on recording mode

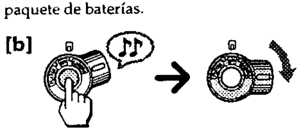
- This camcorder records and plays back in SP (standard play) mode and in LP (long play) mode. Select SP or LP in the menu system. The playback quality in LP mode, however, will not be as good as that in SP mode.
- When a tape recorded on this camcorder in LP mode is played back on other types of 8 mm camcorders or VCRs, the playback quality may not be as good as that on this camcorder.

Notes on the tape counter

- The tape counter indicates the recording or playback time. Use it as a guide. There will be a time lag of several seconds from the actual time. To set the counter to zero, press COUNTER RESET.
- If the tape is recorded in SP and LP modes mixed, the tape counter shows incorrect recording time. When you intend to edit the tape using the tape counter, record in same (SP or LP) mode.

Para finalizar la grabación [b]

Vuelva a pulsar START/STOP para detener la grabación. Ajuste el interruptor POWER en OFF. A continuación extraiga el videocassette y retire el paquete de baterías.



Nota sobre el modo de espera

Si deja la videocámara en modo de espera durante 5 minutos mientras el videocassette está insertado, la videocámara se apagará automáticamente para evitar que se desgasten la batería y la cinta. Para reanudar el modo de espera, ajuste el interruptor POWER en OFF mientras pulsa el botón verde pequeño del interruptor; a continuación, ajústelo en CAMERA. Para comenzar a grabar, pulse START/STOP.

Nota sobre la grabación

Cuando grabe desde el principio de una cinta, deje que ésta gire durante unos 15 segundos antes de empezar la grabación propiamente dicha. De este modo no perderá las escenas iniciales al reproducir la cinta.

Notas sobre el modo de grabación

- Esta videocámara graba y reproduce en modo SP (reproducción estándar) y en modo LP (larga duración). Seleccione SP o LP en el sistema de menús. Sin embargo, la calidad de reproducción en el modo LP no será tan buena como en el modo SP.
- Cuando una cinta grabada en esta videocámara en modo LP se reproduce en otros tipos de videograbadoras o videocámaras de 8 mm, la calidad de reproducción puede ser inferior a la obtenida en esta videocámara.

Notas sobre el contador de cinta

- El contador de cinta indica el tiempo de grabación o reproducción y sirve de orientación. Suele marcar una diferencia de varios segundos con respecto al tiempo real. Para poner el contador a cero, pulse COUNTER RESET.
- Si la cinta se graba mezclando los modos SP y LP, el contador de cinta mostrará un tiempo de grabación incorrecto. Cuando desee editar la cinta utilizando el contador de cinta, grabe siempre en el mismo modo (SP o LP).

Note on the beep sound
As indicated with ♪ in the illustrations, a beep sounds when you turn the power on or when you start recording, and two beeps sound when you stop recording, confirming the operation. Several beeps also sound as a warning of any unusual condition of the camcorder.
Note that the beep sound is not recorded on the tape. If you do not want to hear the beep sound, select "OFF" in the menu system.

When moving from indoors to outdoors (or vice versa)
Set the camcorder in Standby mode, and point the camcorder at a white subject for about 15 seconds so that the white balance is properly adjusted.

Adjusting the LCD panel angle [a]
Adjust the LCD panel to the angle you want. The LCD panel moves forward, backward, and upward.

Adjusting the brightness of the LCD panel [b]
Press LCD BRIGHT.
+ side: to brighten the LCD screen
– side: to dim the LCD screen

You may find it difficult to view the LCD screen due to glare when using the camcorder outdoors. In this case, use the sunshade.

Nota sobre el pitido
Como indica el signo ♪ en las ilustraciones, cuando se enciende la unidad o se empieza a grabar suena un pitido que confirma la operación; al detener la grabación suenan dos pitidos. También suenan varios pitidos como aviso de cualquier condición anormal en la videocámara.
Observe que el pitido no se graba en la cinta. Si no desea oírlo, seleccione "OFF" en el sistema de menús.

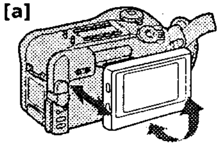
Para pasar de interiores a exteriores (o viceversa)
Ajuste la videocámara en modo de espera y diríjala hacia un objecto blanco durante unos 15 segundos para que el balance de blancos se ajuste correctamente.

Ajuste del ángulo del panel LCD [a]
Ajuste el panel LCD en el ángulo que desee. El panel LCD se desplaza hacia adelante, hacia atrás y hacia arriba.

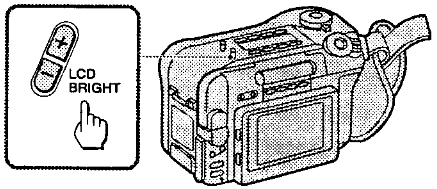
Ajuste del brillo del panel LCD [b]
Pulse LCD BRIGHT.
lado +: aumenta el brillo de la pantalla LCD
lado –: oscurece la pantalla LCD

Cuando emplee la videocámara en exteriores, es posible que se produzcan brillos que dificulten la visualización de la pantalla LCD. En tal caso, utilice el toldo.

[a]



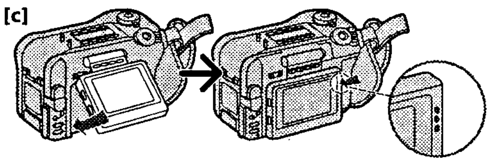
[b]



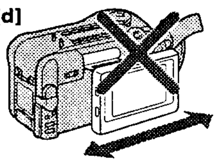
Notes on the LCD panel
- To put the LCD panel back into its flush position, move it straight back by pushing the upper right edge of the panel marked with the raised dots [c].
- When moving the LCD panel, do not move it sideways; otherwise, the camcorder body may be damaged or the LCD panel may not be stored properly [d].
- Do not push nor touch the LCD when moving the LCD panel.

Notas sobre el panel LCD
- Para volver a encajar el panel LCD en su posición original, desplácelo hacia atrás empujando el borde superior derecho del panel marcado con puntos en relieve [c].
- No desplace el panel LCD hacia los lados, pues podría almacenarlo de forma incorrecta o dañar el cuerpo de la videocámara [d].
- No empuje ni toque la pantalla LCD mientras desplaza el panel LCD.

[c]



[d]



Selecting the start/stop mode

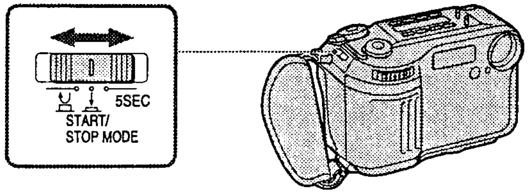
⊻ : When you press START/STOP, the camcorder starts recording. When you press the button again, the camcorder stops recording. (factory setting)
⊥ : As long as you keep pressing START/STOP, the camcorder records. When you release the button, the camcorder stops recording.
5SEC: When you press START/STOP, the camcorder records for 5 seconds and stops. (p. 43)

When you select ⊥ or **5SEC**, you cannot use the fade-in/fade-out function.
When you select **5SEC**, the remaining tape indicator is not displayed.

Selección del modo de inicio/ detención

⊻ : La videocámara empieza a grabar cuando se pulsa START/STOP. La videocámara detiene la grabación cuando se vuelve a pulsar este botón. (ajuste de fábrica)
⊥ : La videocámara graba mientras se mantiene pulsado el botón START/STOP. La videocámara deja de grabar cuando se suelta el botón.
5SEC: Cuando se pulsa START/STOP, la videocámara graba durante 5 segundos y se detiene. (p. 43)

Si selecciona ⊥ o **5SEC**, no podrá utilizar la función de aparición y desaparición gradual.
Si selecciona **5SEC**, el indicador de cinta restante no aparecerá.



1-7

Using the zoom feature

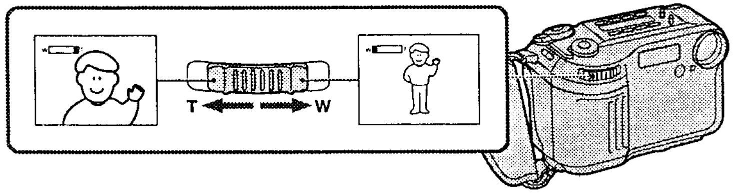
Zooming is a recording technique that lets you change the size of the subject in the scene.
For more professional-looking recordings, use the zoom function sparingly.

"T" side: for telephoto (subject appears closer)
"W" side: for wide-angle (subject appears farther away)

Uso de la función de zoom

El zoom es una técnica de grabación que permite cambiar el tamaño del sujeto de la escena.
Para grabaciones de aspecto más profesional, no utilice apenas la función de zoom.

Lado "T": para telefoto (el sujeto aparece más cerca)
Lado "W": para gran angular (el sujeto aparece más lejos)



Zooming speed (Variable speed zooming)

Move the power zoom lever a little for a relatively slow zoom; move it still more for a high-speed zoom.

When you shoot a subject using a telephoto zoom

If you cannot get a sharp focus while in extreme telephoto zoom, move the "W" side of the power zoom lever until the focus is sharp. You can shoot a subject that is at least about 100 cm (about 3 1/4 feet) away from the lens surface in the telephoto position, or about 1 cm (1/2 inch) away in the wide-angle position.

Velocidad de zoom (zoom de velocidad variable)

Desplace levemente la palanca de alimentación del zoom para obtener un efecto lento y desplácela más para que el zoom funcione a alta velocidad.

Cuando se videofilma un sujeto con un zoom telefoto

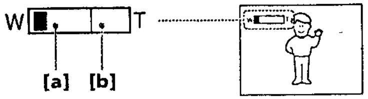
Si no puede enfocar nítidamente cuando utiliza el zoom telefoto en su posición extrema, desplace el lado "W" de la palanca de alimentación del zoom hasta que el enfoque sea nítido. Pueden videofilmarse sujetos situados al menos a unos 100 cm (3 1/4 pies) de la superficie del objetivo en posición de telefoto, o a 1 cm (1/2 pulgada) en posición de gran angular.

Notes on digital zoom

- More than 10x zoom is performed digitally, and the picture quality deteriorates as you go toward the "T" side. If you do not want to use the digital zoom, set the D ZOOM function to OFF in the menu system.
- The vertical bar in the power zoom indicator separates the optical zooming zone (left of the bar **[a]**) and the digital zooming zone (right of the bar **[b]**). If you set the D ZOOM function to OFF, the part to the right of the bar disappears.
- When using the digital zoom function, zooming power is up to 20x.

Notas sobre el zoom digital

- El zoom de más de 10x se efectúa digitalmente y la calidad de la imagen se deteriora a medida que se avanza hacia el lado "T". Si no desea usar el zoom digital, ajuste la función D ZOOM en OFF en el sistema de menús.
- La barra vertical del indicador de alimentación del zoom divide la zona de zoom óptico (izquierda de la barra **[a]**) y la de zoom digital (derecha **[b]**). Al ajustar la función D ZOOM en OFF desaparece la parte derecha de la barra.
- Cuando se usa la función de zoom digital, la alimentación del zoom alcanza 20x.

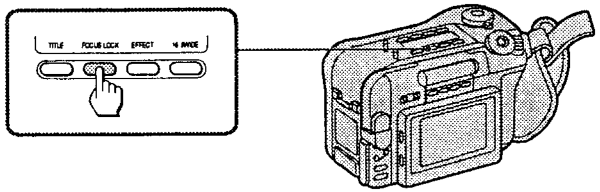


Fixing the focus momentarily

Use this function when the focus on the object you want to record is unstable. Press FOCUS LOCK with the desired object in focus while the camcorder is in Standby or recording mode. The focus is fixed while the 🔒 is displayed on the LCD screen.
Press FOCUS LOCK again to release this function.

Fijación momentánea del enfoque

Esta función se usa cuando el enfoque del objeto que desea grabarse es inestable. Pulse FOCUS LOCK enfocando el objeto que desee con la videocámara en modo de espera o grabación. El enfoque se fija mientras 🔒 aparece en la pantalla LCD.
Pulse FOCUS LOCK de nuevo para cancelar esta función.



Hints for better shooting

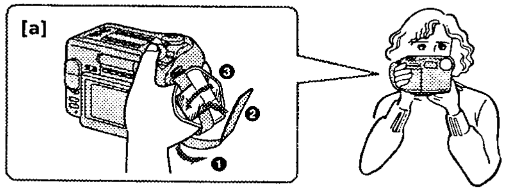
Consejos para mejorar la videofilmación

For hand-held shots, you will get better results by holding the camcorder according to the following suggestions:

- Hold the camcorder firmly and secure it with the grip strap so that you can easily manipulate the controls with your thumb. **[a]**

Para videofilmaciones con la cámara en las manos, obtendrá mejores resultados si sujeta la videocámara según estas sugerencias:

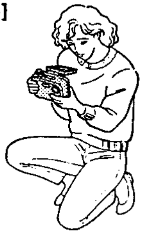
- Sujete la videocámara firmemente y fíjela con la correa para poder manejar los controles fácilmente con el pulgar. **[a]**



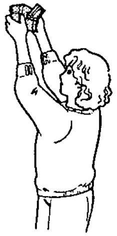
- Place your elbows against your side.
- Place your left hand under the camcorder to support it.
- Adjust the LCD panel angle.
- Keep your fingers away from the lens.
- Use the LCD panel frame as a guide to determine the horizontal plane.
- You can record in a low position to get an interesting recording angle. Lift the LCD panel up to record from a low position. **[b]**
- You can also record in a high position. Lift the LCD panel down to record from a high position. **[c]**

- Pegue los codos a los lados del cuerpo.
- Coloque la mano izquierda debajo de la videocámara para sostenerla.
- Ajuste el ángulo del panel LCD.
- Mantenga los dedos alejados del objetivo.
- Use el marco del panel LCD como orientación para determinar el plano horizontal.
- Si graba desde una posición baja obtendrá un ángulo de grabación interesante. Para ello, eleve el panel LCD hacia arriba. **[b]**
- También puede grabar desde posiciones altas. Para ello, mueva el panel LCD hacia abajo. **[c]**

[b]



[c]



Hints for better shooting

Consejos para mejorar la videofilmación

Place the camcorder on a flat surface or use a tripod

Try placing the camcorder on a table top or any other flat surface of suitable height. If you have a tripod for a still camera, you can also use it with the camcorder. When attaching a non-Sony tripod, make sure that the length of the tripod screw is less than 6.5 mm (9/32 inches). Otherwise, the screw may damage the inner parts of the camcorder.

Cautions on the LCD panel and the lens

- Do not pick up the camcorder by the LCD panel. **[d]**
- Do not place the camcorder so as to point the LCD screen and the lens toward the sun. The LCD panel and the lens may be damaged. Be careful when placing the camcorder under sunlight or by a window. **[e]**

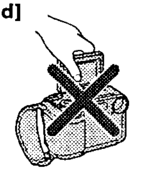
Sitúe la videocámara en una superficie plana o use un trípode

Intente colocar la videocámara en la superficie de una mesa o en otra superficie plana de la altura adecuada. Si dispone de un trípode para una cámara fija, también puede usarlo con la videocámara. Cuando utilice trípodes que no sean Sony, cerciórese de que la longitud del tornillo del trípode es inferior a 6,5 mm (9/32 pulgadas), pues en caso contrario el tornillo puede dañar los componentes internos de la videocámara.

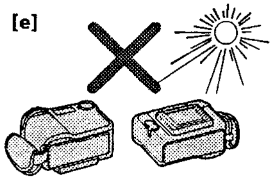
Precauciones sobre el panel LCD y el objetivo

- No coja la videocámara por el panel LCD. **[d]**
- Sitúe la videocámara de forma que la pantalla LCD y el objetivo no estén orientados hacia la luz solar. El panel LCD y el objetivo pueden resultar dañados. Tenga cuidado cuando sitúe la videocámara a la luz del sol o junto a una ventana. **[e]**

[d]



[e]



Note on the LCD screen

The LCD screen is made with high-precision technology. However, black points or bright points of light (red, blue or green) may appear constantly on the LCD screen. These points are not recorded on the tape. This is not a malfunction. (Effective dots: more than 99.99%)

Nota sobre la pantalla LCD

La pantalla LCD está fabricada con tecnología de alta precisión. Sin embargo, en la pantalla LCD pueden aparecer constantemente puntos negros o brillantes de luz (rojos, azules o verdes). Estos puntos no se graban en la cinta ni se trata de un mal funcionamiento. (Puntos efectivos: más del 99,99%)

Playing back a tape

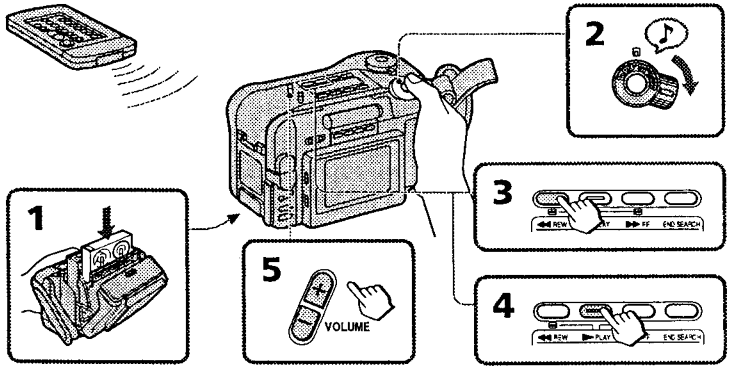
Reproducción de cintas

You can monitor the playback picture on the LCD screen.
(1) Insert the recorded tape with the window facing out.
(2) While pressing the small green button on the POWER switch, set it to PLAYER. The display for operation buttons appears.
(3) Press ◀◀ to rewind the tape.
(4) Press ▶ to start playback.
(5) Adjust the volume using VOLUME.

You can also monitor the picture on a TV screen, after connecting the camcorder to a TV or VCR.

La reproducción de imagen puede controlarse en la pantalla LCD.
(1) Inserte la cinta grabada con la ventana hacia afuera.
(2) Ajuste el interruptor POWER en PLAYER mientras pulsa el botón verde pequeño del interruptor. Aparece el visor con los botones de funcionamiento.
(3) Pulse ◀◀ para rebobinar la cinta.
(4) Pulse ▶ para empezar la reproducción.
(5) Ajuste el volumen con VOLUME.

La imagen también puede controlarse en una pantalla de televisior después de conectar la videocámara a un televisor o una videograbadora.



To stop playback, press ■.
To rewind the tape, press ◀◀.
To fast-forward the tape rapidly, press ▶▶.
To adjust the brightness of the LCD screen, press LCD BRIGHT.

Pulse ■ **para detener la reproducción.**
Pulse ◀◀ **para rebobinar la cinta.**
Pulse ▶▶ **para que la cinta avance rápidamente.**
Pulse LCD BRIGHT **para ajustar el brillo de la pantalla LCD.**

Using the Remote Commander

You can control playback using the supplied Remote Commander. Before using the Remote Commander, insert the R6 (size AA) batteries.

Note on DISPLAY button

Press DISPLAY on the Remote Commander to display the screen indicators on the LCD screen. To erase the indicators, press again.

Using headphones

Connect headphones (not supplied) to the ∩ jack (p. 95). You can adjust the volume of the headphones using VOLUME.

Uso del mando a distancia

La reproducción puede controlarse con el mando a distancia suministrado. Antes de utilizarlo, inserte las pilas R6 (tamaño AA).

Nota sobre el botón DISPLAY

Pulse DISPLAY en el mando a distancia para que aparezcan los indicadores de pantalla en la pantalla LCD. Vuelva a pulsar este botón para que desaparezcan.

Uso de auriculares

Conecte los auriculares (no suministrados) a la toma ∩ (p. 95). El volumen de los auriculares se ajusta con VOLUME.

Various playback modes

You can enjoy noiseless pictures on the LCD screen during still, slow and picture search. **(Crystal-clear still/slow/picture search)**

To view a still picture (playback pause)

Press II during playback. To resume playback, press II or ▶.

To locate a scene (picture search)

Keep pressing ◀◀ or ▶▶ during playback. To resume normal playback, release the button.

To monitor the high-speed picture while advancing the tape or rewinding (skip scan)

Keep pressing ◀◀ while rewinding or ▶▶ while advancing the tape. To resume normal rewinding or fast-forward, release the button.

To view the picture at 1/5 speed (slow playback)

Press I▶ on the Remote Commander during playback. To resume normal playback, press ▶. If slow playback lasts for about 1 minute, it shifts to normal speed automatically.

To change the playback direction

Press ◀II/< on the Remote Commander for reverse direction or >/II▶ on the Remote Commander for forward direction during playback. To resume normal playback, press ▶.

Notes on playback

- Streaks appear and the sound is muted in the various playback modes.
- When playback pause mode lasts for 5 minutes, the camcorder automatically enters stop mode.
- Horizontal noise appears at the centre of the screen when you play back a tape in reverse if the RC time code or the Data Code is displayed on the screen. This is normal.

Varios modos de reproducción

En la pantalla LCD es posible ver imágenes sin ruido durante los modos de imagen fija, reproducción lenta y búsqueda de imágenes. **(búsqueda de imagen/imagen fija/ reproducción lenta con nitidez)**

Para ver una imagen fija (pausa de reproducción)

Pulse II durante la reproducción. Pulse II o ▶ para reanudar la reproducción.

Para buscar una escena (búsqueda de imágenes)

Mantenga pulsado ◀◀ o ▶▶ durante la reproducción. Suelte el botón para reanudar la reproducción normal.

Para controlar la imagen a alta velocidad durante el avance rápido o el rebobinado de la cinta (exploración de omisión)

Mantenga pulsado ◀◀ mientras rebobina o ▶▶ durante el avance rápido. Suelte el botón para reanudar el rebobinado o el avance normal.

Para ver la imagen a velocidad 1/5 (reproducción lenta)

Pulse I▶ en el mando a distancia durante la reproducción. Pulse ▶ para reanudar la reproducción normal. Si la reproducción lenta dura aproximadamente 1 minuto, pasa automáticamente a velocidad normal.

Para cambiar el sentido de reproducción

Durante la reproducción, pulse ◀II/< en el mando a distancia para cambiar al sentido regresivo o >/II▶ para cambiar al sentido progresivo. Para reanudar la reproducción normal, pulse ▶.

Notas sobre la reproducción

- En todos los modos de reproducción aparecen bandas y se omite el sonido.
- Cuando el modo de pausa de reproducción dura 5 minutos, la videocámara entra automáticamente en modo de parada.
- Cuando se reproducen cintas hacia atrás, aparece ruido horizontal en el centro de la pantalla si ésta muestra el código de tiempos RC o el código de datos. Es normal.

Displaying the date or time when you recorded – data code function

Even if you did not record the date or time when you were recording, you can display the date or time when you recorded (Data Code) on the TV during playback or editing. The Data Code is also displayed on the LCD screen.

To display the date when you recorded

Press DATE on the camcorder **[a]**, or press DATA CODE on the Remote Commander **[b]**. To make the date disappear, press DATE again or DATA CODE twice.

To display the time when you recorded

Press TIME on the camcorder **[a]**, or press DATA CODE on the Remote Commander twice **[b]**. To make the time disappear, press it again.

Visualización de fecha u hora de grabación – función de código de datos

La fecha y hora pueden visualizarse en un televisor durante la reproducción o edición incluso aunque no se hayan grabado durante la grabación. El código de datos también aparece en la pantalla LCD.

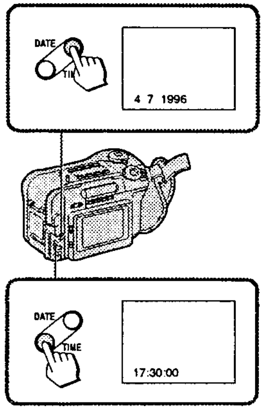
Para visualizar la fecha de grabación

Pulse DATE en la videocámara **[a]** o DATA CODE en el mando a distancia **[b]**. Pulse DATE otra vez o DATA CODE dos veces para que la fecha desaparezca.

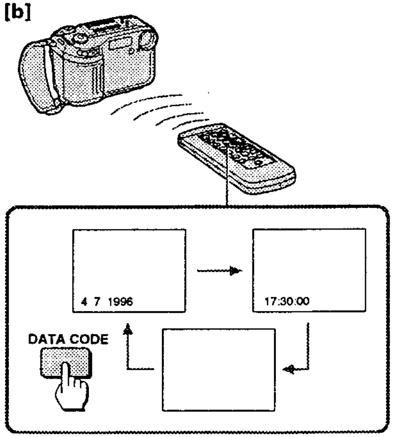
Para visualizar la hora de grabación

Pulse TIME en la videocámara **[a]** o DATA CODE dos veces en el mando a distancia **[b]**. Vuelva a pulsar este botón para que la hora desaparezca.

[a]



[b]



When bars (--:--:--) appear

- A blank portion of the tape is being played back.
- The tape was recorded by a camcorder without the Data Code function.
- The tape was recorded by a camcorder without having date and time set.
- The tape is unreadable due to tape damage or noise.
- The tape is being played back in variable speed. (slow playback, etc.)
- An index is marked, the RC time code is written, or PCM after recording is made on the tape.
- The tape was recorded in LP mode.

Cuando aparecen barras (--:--:--)

- Se está reproduciendo una parte sin grabación de la cinta.
- La cinta se ha grabado en una videocámara que no posee la función de código de datos.
- La cinta se ha grabado en una videocámara sin ajustar fecha y hora.
- La cinta no es legible por estar dañada o por ruido.
- La cinta está reproduciéndose a velocidad variable. (lenta, etc.)
- Se ha marcado un índice, se ha escrito el código de tiempos RC o se está realizando una reproducción PCM de la cinta después de grabar.
- La cinta se ha grabado en modo LP.

Searching for the end of the picture

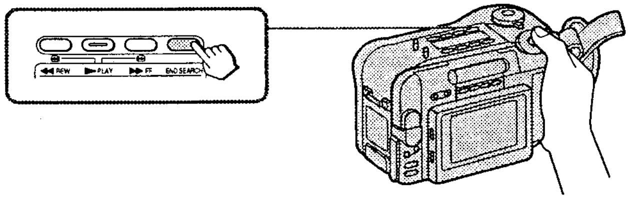
Búsqueda del final de la imagen

You can go to the end of the recorded portion after you record and play back the tape. The tape starts rewinding or fast-forwarding and the last 5 seconds (SP mode) or 10 seconds (LP mode) of the recorded portion plays back. Then the tape stops at the end of the recorded picture **(End Search)**.
Note that End Search function does not work once you have ejected the cassette after you recorded on it.

Press END SEARCH.
This function works when the POWER switch is set to either CAMERA or PLAYER.

Después de grabar y reproducir la cinta puede desplazarse al final de la porción grabada. La cinta se rebobina o avanza rápidamente y se reproducen los últimos 5 segundos (modo SP) o 10 segundos (modo LP) de la porción grabada. Después la cinta se detiene al final de la imagen grabada **(búsqueda de imágenes finales)**.
La función de búsqueda de imágenes finales no se activa después de extraer el videocassette una vez grabado.

Pulse END SEARCH.
Esta función se activa cuando el interruptor POWER está ajustado en CAMERA o PLAYER.



Note on the End Search function
When you re-record continuously after using the End Search function, you might not be able to obtain smooth transition between the last scene and the next scene.

Nota sobre la función de búsqueda de imágenes finales
Si vuelve a realizar grabaciones de forma continua después de emplear esta función, es posible que no pueda obtener una transición uniforme entre la última escena y la siguiente.

Using alternative power sources

You can choose any of the following power sources for your camcorder: battery pack, mains, and 12/24 V car battery. Choose the appropriate power source depending on where you want to use your camcorder.

Place	Power source	Accessory to be used
Indoors	Mains	Supplied AC power adaptor
Outdoors	Battery pack	Battery pack NP-F530 (supplied)
In the car	12 V or 24 V car battery	Car battery charger DC-V515

Note on power sources
Disconnecting the power source or removing the battery pack during recording or playback may damage the inserted tape. If this happens, restore the power supply again immediately.

Using the mains

To use the supplied AC power adaptor:

(1) Connect the connecting plug on the camcorder to the DC OUT jack on the AC power adaptor using the supplied connecting cord.
(2) Connect the mains lead to the AC power adaptor.
(3) Connect the AC power cord to mains.

Uso de fuentes de alimentación alternativas

Es posible elegir cualquiera de las siguientes fuentes de alimentación para la videocámara: paquete de baterías, corriente doméstica y batería de automóvil de 12/24 V. Elija la fuente de alimentación adecuada al lugar en que vaya a usar la videocámara.

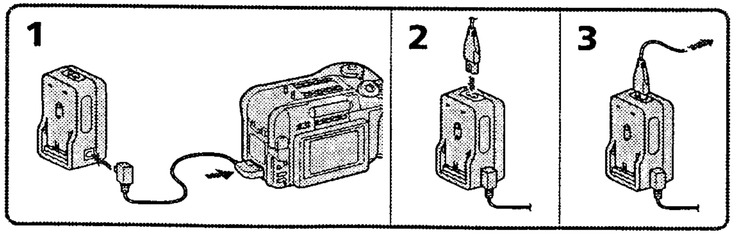
Lugar	Fuente de alimentación	Accesorio necesario
Interiores	Corriente doméstica	Adaptador de alimentación de CA suministrado
Exteriores	Paquete de baterías	Paquete de baterías NP-F530 (suministrado)
En el automóvil	Batería de automóvil de 12 V o 24 V	Cargador de batería de automóvil DC-V515

Nota sobre fuentes de alimentación
La desconexión de la fuente de alimentación o la extracción del paquete de baterías durante la grabación o reproducción puede dañar la cinta insertada. Si esto sucede, restablezca inmediatamente el suministro de alimentación.

Uso de corriente doméstica

Para usar el adaptador de alimentación de CA suministrado:

(1) Conecte el enchufe de conexión de la videocámara a la toma DC OUT del adaptador de alimentación de CA con el cable de conexión suministrado.
(2) Conecte el cable de alimentación al adaptador de alimentación de CA.
(3) Conecte el cable de alimentación de CA a una toma de red.



Advanced operations / Operaciones avanzadas

Using alternative power sources

Charging the battery pack
You can charge the battery pack installed in the camcorder by connecting the AC power adaptor to the camcorder and setting the POWER switch to OFF. The CHARGE lamp lights up, and goes out when normal charge is completed. For a full charge, leave the battery pack in place for approximately one hour. Charging time of the supplied NP-F530 battery pack is as follows:
Full charge: approx. 3 hours and 30 minutes
Normal charge: approx. 2 hours and 30 minutes

Charging two battery packs at the same time
Install one battery pack in the camcorder and another one on the AC power adaptor. The CHARGE lamps on the camcorder and on the AC power adaptor light up, and go out when normal charge is completed. For a full charge, leave the battery pack in place for approximately one hour. If either of the CHARGE lamps remains lit, charging both battery packs is not completed. Time taken to charge two NP-F530 battery packs simultaneously is as follows:
Full charge: approx. 4 hours
Normal charge: approx. 3 hours

Uso de fuentes de alimentación alternativas

Carga del paquete de baterías
El paquete de baterías instalado en la videocámara puede cargarse conectando el adaptador de alimentación de CA a la videocámara y ajustando el interruptor POWER en OFF. El indicador CHARGE se ilumina, y se apaga cuando el proceso de carga normal finaliza. Para una carga total, deje el paquete de pilas insertado durante una hora aproximadamente. El tiempo de carga del paquete de baterías NP-F530 suministrado es el siguiente:
Carga total: aprox. 3 horas y 30 minutos
Carga normal: aprox. 2 horas y 30 minutos

Carga de dos paquetes de baterías a la vez
Instale un paquete de baterías en la videocámara y otro en el adaptador de alimentación de CA. El indicador CHARGE de la videocámara y del adaptador de alimentación de CA se ilumina, y se apaga cuando el proceso de carga normal finaliza. Para una carga total, deje el paquete de baterías cargando durante aproximadamente una hora. Si alguno de los indicadores CHARGE permanece iluminado, la carga de ambos paquetes de baterías no ha finalizado. El tiempo de carga simultánea de dos paquetes de baterías NP-F530 es el siguiente:
Carga total: aprox. 4 horas
Carga normal: aprox. 3 horas

Notes on the CHARGE lamp

- The CHARGE lamp will remain lit for a while even if the unit is unplugged after use. This is normal.
- If the CHARGE lamp does not light, disconnect the AC power adaptor. After about one minute, reconnect the AC power adaptor.

To remove the connecting cord

While pressing the button on the connecting plug, pull out the connecting cord. Never pull the connecting cord itself.

When you use the AC power with the connecting cord, the battery pack installed in the camcorder is not used because the AC power has priority over the battery pack.

WARNING

The mains lead must only be changed at a qualified service shop.

PRECAUTION

The set is not disconnected from the AC power source (mains) as long as it is connected to the mains, even if the set itself has been turned off.

Using a car battery

Use a car battery charger such as the DC-V515 (not supplied). Connect the car battery cord to the cigarette lighter socket of a car (12 V or 24 V). Connect the car battery charger and the camcorder using the supplied DK-626 connecting cord.

This mark indicates that this product is a genuine accessory for Sony video product.
When purchasing Sony video products, Sony recommends that you purchase accessories with this "GENUINE VIDEO ACCESSORIES" mark.

Notas sobre el indicador CHARGE

- El indicador CHARGE permanece iluminado unos momentos incluso aunque la unidad se haya desenchufado después de usarla. Es normal.
- Si el indicador CHARGE no se ilumina, desconecte el adaptador de alimentación de CA. Vuelva a conectarlo después de aproximadamente un minuto.

Para retirar el cable de conexión

Tire del cable mientras pulsa el botón del enchufe de conexión. Nunca tire del cable propiamente dicho. Cuando se usa la alimentación de CA con el cable de conexión, no se emplea el paquete de baterías instalado en la videocámara, ya que la alimentación de CA tiene prioridad sobre el paquete de baterías.

AVISO

El cable de alimentación sólo debe cambiarse en una tienda de servicio técnico autorizada.

PRECAUCION

El aparato no se desconecta de la fuente de alimentación de CA (corriente doméstica) mientras esté enchufado a la toma de red, incluso aunque el aparato en sí esté apagado.

Uso de baterías de automóvil

Utilice un cargador de batería de automóvil como el DC-V515 (no suministrado). Conecte el cable de la batería de automóvil a la clavija del encendedor de un automóvil (12 V o 24 V). Conecte el cargador de batería de automóvil y la videocámara con el cable de conexión suministrado DK-626.

Esta marca indica que este producto es un accesorio genuino para un producto de vídeo Sony. Cuando se adquieren productos de vídeo Sony, se recomienda que los accesorios adquiridos lleven la marca "GENUINE VIDEO ACCESSORIES".

Changing the mode settings

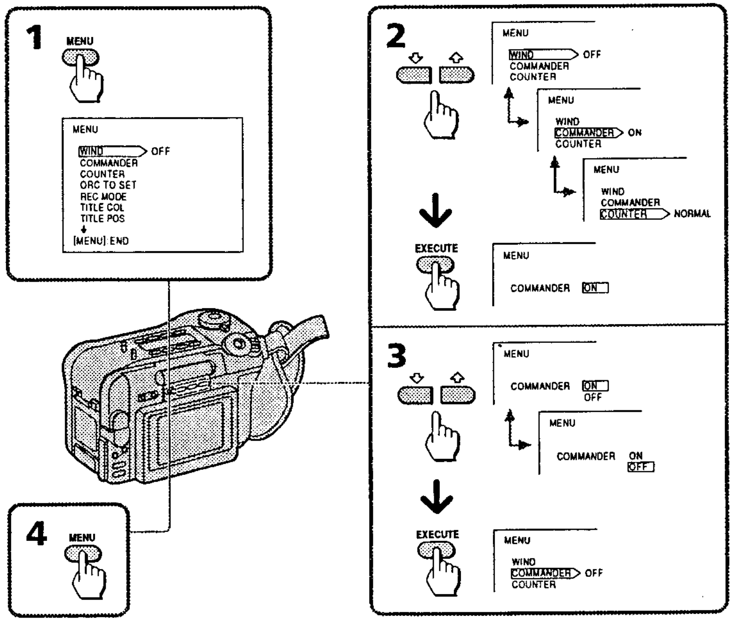
You can change the mode settings in the menu system to further enjoy the features and functions of the camcorder.

(1) Press MENU to display the menu on the LCD screen.
(2) Press ↓ or ↑ to select the desired item, then press EXECUTE. Only the selected item is displayed.
(3) Press ↓ or ↑ to select the desired mode, then press EXECUTE. If you want to change the other modes, repeat steps 2 and 3.
(4) Press MENU to erase the menu display.

Cambio de los ajustes de modo

Los ajustes de modo pueden cambiarse en el sistema de menús para obtener mayor provecho de las características y funciones de la videocámara.

(1) Pulse MENU para ver el menú en la pantalla LCD.
(2) Pulse ↓ o ↑ para seleccionar el elemento que desee y después pulse EXECUTE. Sólo aparecerá el elemento seleccionado.
(3) Pulse ↓ o ↑ para seleccionar el modo que desee y después pulse EXECUTE. Si desea cambiar los demás modos, repita los pasos 2 y 3.
(4) Pulse MENU para que el menú desaparezca de la pantalla.



Notes on changing the mode settings
- Menu items differs depending on the setting of the POWER switch to PLAYER or CAMERA.
- When you let the subject monitor the shot, the menu display does not appear.

Selecting the mode setting of each item

Items for both CAMERA and PLAYER modes

COUNTER* <NORMAL/TIME CODE>
- Normally select NORMAL.
- Select TIME CODE to display the RC time code in order to edit more precisely.

COMMANDER <ON/OFF>
- Select ON when using the supplied Remote Commander for the camcorder.
- Select OFF when not using the Remote Commander.

BEEP* <ON/OFF>
- Select ON so that beeps sound when you start/stop recording, etc.
- Select OFF when you do not want to hear the beep sound.

LCD COLOUR*
Select this item and change the level of the indicator by pressing ⬇ or ⬆ to adjust the colour intensity of the picture.

LCD B.L.* <BRT NORMAL/BRIGHT>
- Normally select BRT NORMAL.
- Select BRIGHT when the LCD screen is dark.

When you select BRIGHT, battery life is about 10 percent shorter during recording.
When you use the power sources other than the battery pack, BRIGHT is automatically selected, and LCD B.L. is not displayed in the menu.

* These settings are retained even when the battery is removed, as long as the vanadium-lithium battery is charged. As far as the items without an asterisk are concerned, their settings return to the default 5 minutes or more after the battery is removed.

Notas sobre el cambio de los ajustes de modo
- Los elementos de menú difieren según el ajuste del interruptor POWER en PLAYER o CAMERA.
- Cuando el sujeto controla la videofilmación, el menú no aparece en pantalla.

Selección del ajuste de modo de cada elemento

Elementos para los modos CAMERA y PLAYER

COUNTER* <NORMAL/TIME CODE>
- Normalmente se selecciona NORMAL.
- Seleccione TIME CODE si desea ver el código de tiempos RC para editar con más precisión.

COMMANDER <ON/OFF>
- Seleccione ON cuando utilice el mando a distancia de la videocámara.
- Seleccione OFF cuando no utilice el mando a distancia.

BEEP* <ON/OFF>
- Seleccione ON para que suene un pitido al iniciar/detener la grabación, etc.
- Seleccione OFF cuando no desee que suene el pitido.

LCD COLOUR*
Para ajustar la intensidad de color de la imagen, seleccione este elemento y cambie el nivel del indicador pulsando ⬇ o ⬆.

LCD B.L.* <BRT NORMAL/BRIGHT>
- Normalmente se selecciona BRT NORMAL.
- Seleccione BRIGHT cuando la pantalla LCD esté oscura.

Cuando se selecciona BRIGHT, la duración de la batería es un 10 por ciento más corta durante la grabación.
Cuando se utilizan fuentes de alimentación diferentes del paquete de baterías, BRIGHT se selecciona automáticamente y LCD B.L. no aparece en el menú.

* Estos ajustes se conservan si se extrae la pila, siempre que la pila de vanadio-litio esté cargada. Con respecto a los elementos que no llevan asterisco, recuperan los ajustes por omisión transcurridos 5 minutos o más después de retirar la batería.

Changing the mode settings

Items for CAMERA mode only

WIND <ON/OFF>
- Select ON to reduce wind noise when recording in strong wind.
- Normally select OFF.

D ZOOM* <ON/OFF>
- Select ON to activate digital zooming.
- Select OFF not to use the digital zoom. The camcorder goes back to 10x optical zoom.

REC LAMP* <ON/OFF>
- Select OFF when you do not want the camera recording/battery lamp at the front of the unit to light up.
- Normally select ON.

When recording a close subject
When REC LAMP is set to ON, the red camera recording lamp on the front of the camcorder may reflect on the subject if it is close. In this case, we recommend you set REC LAMP to OFF.

CLOCK SET*
Select this item to reset the date or time.

ORC TO SET*
Select this item to automatically adjust the recording condition of the tape to get the best possible recording.
If you have already performed this function, "ORC ON" is displayed.

REC MODE* <SP/LP>
- Select SP when recording in SP (standard play) mode.
- Select LP when recording in LP (long play) mode.

TITLE COL* <WHITE/YELLOW/VIOLET/RED/CYAN/GREEN/BLUE>
Select the colour of the title.

TITLE POS* <CENTER/BOTTOM>
- Select CENTER to centre the title in the picture.
- Select BOTTOM to position the title at the bottom of the picture.

TITLE LANG* <ENGLISH/FRANÇAIS/ESPAÑOL/PORTUGÊS/DEUTSCH/NEDERLANDS/ITALIANO>
Select the language of the preset titles.

TITLE1 SET*/TITLE2 SET*
Store your own titles.

Cambio de los ajustes de modo

Elementos sólo para modo CAMERA

WIND <ON/OFF>
- Seleccione ON para reducir el ruido de viento al grabar con viento fuerte.
- Normalmente se selecciona OFF.

D ZOOM* <ON/OFF>
- Seleccione ON para activar el zoom digital.
- Seleccione OFF para no usar el zoom digital. La videocámara vuelve al zoom óptico de 10x.

REC LAMP* <ON/OFF>
- Seleccione OFF cuando no desee que se ilumine el indicador de grabación/batería situado en la parte frontal de la unidad.
- Normalmente se selecciona ON.

Cuando se graba un sujeto cercano
Cuando REC LAMP está ajustado en ON, es posible que el indicador rojo de grabación con la cámara situado en la parte frontal de la videocámara se refleje en el sujeto si éste está cerca. En tal caso, se recomienda ajustar REC LAMP en OFF.

CLOCK SET*
Seleccione este elemento para reajustar la fecha o la hora.

ORC TO SET*
Seleccione este elemento para ajustar automáticamente la condición de grabación de la cinta y obtener la mejor grabación posible.
Si ya ha utilizado esta función, aparecerá "ORC ON".

REC MODE* <SP/LP>
- Seleccione SP cuando grabe en modo SP (reproducción estándar).
- Seleccione LP cuando grabe en modo LP (larga duración).

TITLE COL* <WHITE/YELLOW/VIOLET/RED/CYAN/GREEN/BLUE>
Seleccione el color del título.

TITLE POS* <CENTER/BOTTOM>
- Seleccione CENTER para centrar el título en la imagen.
- Seleccione BOTTOM para situar el título en la parte inferior de la imagen.

TITLE LANG* <ENGLISH/FRANÇAIS/ESPAÑOL/PORTUG/DEUTSCH/NEDERLANDS/ITALIANO>
Seleccione el idioma de los títulos predefinidos.

TITLE1 SET*/TITLE2 SET*
Almacene sus propios títulos

STEADYSHOT* <ON/OFF>
- Normally select ON.
- Select OFF when you do not have to worry about camera-shake.

Items for PLAYER mode only

EDIT <ON/OFF>
- Select ON to minimize picture deterioration when editing.
- Normally select OFF.

HiFi SOUND <STEREO/1/2>
- Normally select STEREO.
- Select 1 or 2 to play back a dual soundtrack tape.

NTSC PB* <ON PAL TV/NTSC 4.43>
- Normally select ON PAL TV.
- Select NTSC 4.43 to adjust the hue of the picture when playing back a tape recorded in the NTSC colour system on a multi-system TV. If you cannot obtain the result you want, select the appropriate TV colour system mode on your TV.

TBC* <ON/OFF>
- Normally select ON, to correct for jitter.
- Select OFF to not correct for jitter. The picture may not be steady when played back.

Note on TBC setting

Set TBC to OFF when playing back
- A tape recorded when the camcorder was shaking.
- A tape on which you recorded a low quality TV signal.
- A tape you have dubbed over.
- A tape on which you recorded the signal of a TV game or similar machine.

DNR* <ON/OFF>
- Normally select ON to reduce picture noise.
- Select OFF if the picture has a lot of movement, causing a conspicuous afterimage.

* These settings are retained even when the battery is removed, as long as the vanadium-lithium battery is charged. As far as the items without an asterisk are concerned, their settings return to the default 5 minutes or more after the battery is removed.

STEADYSHOT* <ON/OFF>
- Normalmente se selecciona ON.
- Seleccione OFF cuando no vayan a producirse sacudidas de la cámara.

Elementos sólo para modo PLAYER

EDIT <ON/OFF>
- Seleccione ON para minimizar el deterioro de la imagen al editar.
- Normalmente se selecciona OFF.

HiFi SOUND <STEREO/1/2>
- Normalmente se selecciona STEREO.
- Seleccione 1 o 2 para reproducir cintas con pista de sonido dual.

NTSC PB* <ON PAL TV/NTSC 4.43>
- Normalmente se selecciona ON PAL TV.
- Seleccione NTSC 4.43 para ajustar el matiz de la imagen al reproducir una cinta grabada en el sistema de color NTSC en un TV multisistema. Si no puede obtener el resultado que desea, seleccione el modo adecuado de sistema de color de TV en el TV.

TBC* <ON/OFF>
- Normalmente se selecciona ON para corregir vibraciones.
- Seleccione OFF para no corregir vibraciones. Es posible que la imagen sea inestable al reproducirla.

Nota sobre el ajuste TBC

Ajuste TBC en OFF cuando reproduzca
- Cintas grabadas con vibraciones de la videocámara.
- Cintas en que se ha grabado una señal de televisión de baja calidad.
- Cintas copiadas.
- Cintas en que se ha grabado la señal de un juego de televisión o máquina similar.

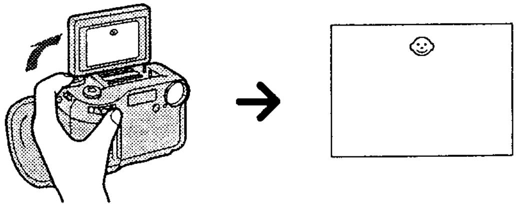
DNR* <ON/OFF>
- Normalmente se selecciona ON para reducir los ruidos de imagen.
- Seleccione OFF si la imagen tiene mucho movimiento y produce imágenes secundarias visibles.

* Estos ajustes se conservan si se extrae la pila, siempre que la pila de vanadio-litio esté cargada. Con respecto a los elementos que no llevan asterisco, recuperan los ajustes por omisión transcurridos 5 minutos o más después de retirar la batería.

Letting the subject monitor the shot

You can turn the LCD panel over so that it faces the other way and you can let the subject monitor the shot.

Turn the LCD panel up vertically. The ☺ indicator appears on the LCD screen **(mirror mode)** and the date, tape counter and remaining tape indicators disappear.
You can also use the Remote Commander.



To cancel mirror mode

Turn the LCD panel down toward the camcorder body.

Notes on mirror mode
- When you turn the LCD panel 180 degrees, the camcorder enters mirror mode.
- Using the mirror mode, you can record yourself while watching yourself on the LCD screen **[a]**.
- The picture on the LCD screen appears as a mirror-image while recording in mirror mode. **II●** appears in Standby mode, and **●** during recording.
- The END SEARCH and FADER indicators appears as a mirror-image.
- "PICTURE EFFECT," "WIDE" and battery remaining time in minutes indications are not displayed.
- While recording in mirror mode, you cannot operate the following functions: MENU, TITLE, DATE, TIME.

Control de videofilmación por el sujeto

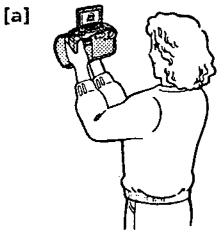
Es posible dar la vuelta al panel LCD para que el sujeto la vea desde el otro lado y pueda controlar la videofilmación.

Gire el panel LCD hacia arriba verticalmente. La pantalla LCD mostrará el indicador ☺ **(modo espejo)** y desaparecerán los indicadores de fecha, contador de cinta y de cinta restante.
También puede utilizarse el mando a distancia.

Para cancelar el modo espejo

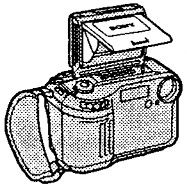
Gire el panel LCD hacia abajo en dirección al cuerpo de la videocámara.

Notas sobre el modo espejo
- Al girar el panel LCD 180 grados, la videocámara entra en modo espejo.
- Con el modo espejo es posible grabarse personalmente mientras se mira uno mismo en la pantalla LCD **[a]**.
- Durante la grabación en modo espejo, la imagen de la pantalla LCD aparece como una imagen espejo. En modo de espera aparece **II●** y durante la grabación aparece **●**.
- Los indicadores END SEARCH y FADER aparecen como una imagen espejo.
- Las indicaciones "PICTURE EFFECT", "WIDE" y la de tiempo de batería restante en minutos no aparecen.
- Mientras se graba en modo espejo no es posible utilizar las siguientes funciones: MENU, TITLE, DATE, TIME.



You can attach the sunshade upside down.

El toldo puede instalarse al revés.



Recording with the date or time

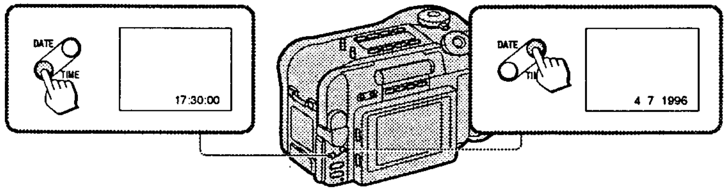
Before you start recording or during recording, press DATE or TIME. You can record the date or time displayed on the LCD screen with the picture. You cannot record the date and the time at the same time. Except for the date or time indicator, no indicator on the LCD screen is recorded.
The clock is set at the factory to London time for United Kingdom and Paris time for the other European countries. You can reset the clock in the menu system.

Press DATE or TIME before you start recording.

Grabación con fecha u hora

Pulse DATE o TIME antes de empezar a grabar o durante la grabación. La fecha o la hora que aparecen en la pantalla LCD pueden grabarse con la imagen. No es posible grabar la fecha y la hora a la vez. Excepto el indicador de fecha u hora, no se graba ningún indicador de la pantalla LCD.
El reloj se ha ajustado en fábrica con la hora de Londres para el Reino Unido y con la hora de París para el resto de países europeos. El reloj puede reajustarse en el sistema de menús.

Pulse DATE o TIME antes de empezar a grabar.



Notes on recording with the date or time

- You cannot record the date and the time at the same time.
- You cannot record a title and the date at the same time.
- You cannot record a title and the time at the same time.
- Once you record the date or time, you cannot erase it.

During recording in WIDE CINEMA mode

When displaying the date or time, the date/time and remaining battery indicator slide up.

To stop recording with the date or time

Press DATE or TIME again. The date or time indicator disappears. The recording continues.

Notas sobre la grabación con fecha u hora

- No es posible grabar la fecha y la hora a la vez.
- No es posible grabar un título y la fecha a la vez.
- No es posible grabar un título y la hora a la vez.
- Una vez grabada la fecha o la hora, no es posible borrarla.

Durante grabaciones en modo WIDE CINEMA

Cuando se visualiza la fecha o la hora, el indicador de fecha/hora y el de la batería restante se deslizan hacia arriba.

Para detener la grabación con fecha u hora

Vuelva a pulsar DATE o TIME. Desaparecerá el indicador de fecha u hora y la grabación continuará.

Fade-in and fade-out

Aparición y desaparición gradual

You can fade in or out to give your recording a professional appearance.
When fading in, the picture gradually fades in from black or mosaic while the sound increases. When fading out, the picture gradually fades to black or mosaic while the sound decreases.

When fading in [a]

(1) While the camcorder is in Standby mode, press FADER. The fade indicator starts flashing.
(2) Press START/STOP to start recording. The fade indicator stops flashing.

When fading out [b]

(1) During recording, press FADER. The fade indicator starts flashing.
(2) Press START/STOP to stop recording. The fade indicator stops flashing, and then recording stops.

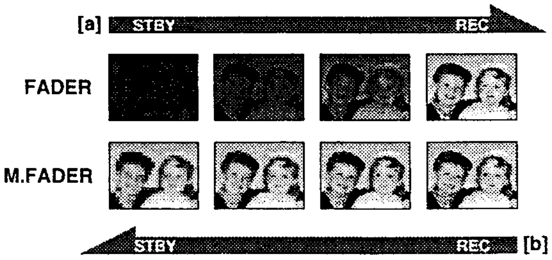
La función de aparición y desaparición gradual se utiliza para dar a la grabación un aspecto profesional.
Con la aparición gradual la imagen aparece poco a poco desde el negro o mosaico mientras aumenta el sonido. Con la desaparición gradual la imagen se funde poco a poco en negro o mosaico mientras disminuye el sonido.

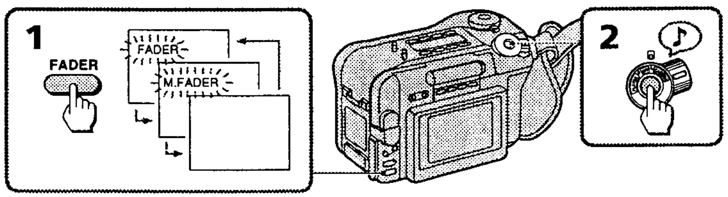
Aparición gradual [a]

(1) Pulse FADER con la videocámara en modo de espera. El indicador de atenuación comenzará a parpadear.
(2) Pulse START/STOP para empezar a grabar. El indicador de atenuación dejará de parpadear.

Desaparición gradual [b]

(1) Pulse FADER durante la grabación. El indicador de atenuación comenzará a parpadear.
(2) Pulse START/STOP para detener la grabación. El indicador de atenuación dejará de parpadear y la grabación se detendrá.





To cancel the fade-in/fade-out function

Before pressing START/STOP, press FADER until the fade indicator disappears.

When the date or time indicator is displayed
The date or time indicator does not fade in or out.

When the START/STOP MODE control is set to ⊥ or 5SEC
You cannot use the fade-in/fade-out function.

Notes on titles
- While fading in or fading out, you cannot superimpose a title.
- While a title is displayed, the picture does not fade in or out.

Para cancelar la función de aparición/desaparición gradual

Antes de pulsar START/STOP, pulse FADER hasta que desaparezca el indicador de atenuación.

Cuando aparece el indicador de fecha u hora
El indicador de fecha u hora no aparece ni desaparece gradualmente.

Cuando el control START/STOP MODE está ajustado en ⊥ o 5SEC
No se puede utilizar la función de aparición/desaparición gradual.

Notas sobre los títulos
- Durante una aparición o desaparición gradual no es posible sobreimprimir títulos.
- Mientras aparece un título, la imagen no puede aparecer ni desaparecer gradualmente.

Enjoying picture effect

Uso del efecto de imagen

Selecting picture effect

You can make pictures like those of television with the Picture Effect function.

[a]

[b]

[c]

MOSAIC [a]
The picture is mosaic.

SOLARIZE [b]
The light intensity is clearer, and the picture looks like an illustration.

B&W
The picture is monochrome (black and white).

SEPIA
The picture is sepia.

NEG. ART [c]
The colour of the picture is reversed.

PASTEL [d]
The picture is in pastel tones.

SLIM [e]
The picture expands vertically.

STRETCH [f]
The picture expands horizontally.

Selección del efecto de imagen

Con la función de efecto de imagen es posible obtener imágenes como las de la televisión.

[d]

[e]

[f]

MOSAIC [a]
La imagen es un mosaico.

SOLARIZE [b]
La intensidad de luz es más clara y la imagen parece una ilustración.

B&W
La imagen es monocroma (blanco y negro).

SEPIA
La imagen es sepia.

NEG. ART [c]
Se invierte el color de la imagen.

PASTEL [d]
La imagen aparece en tonos pastel.

SLIM [e]
La imagen se expande verticalmente.

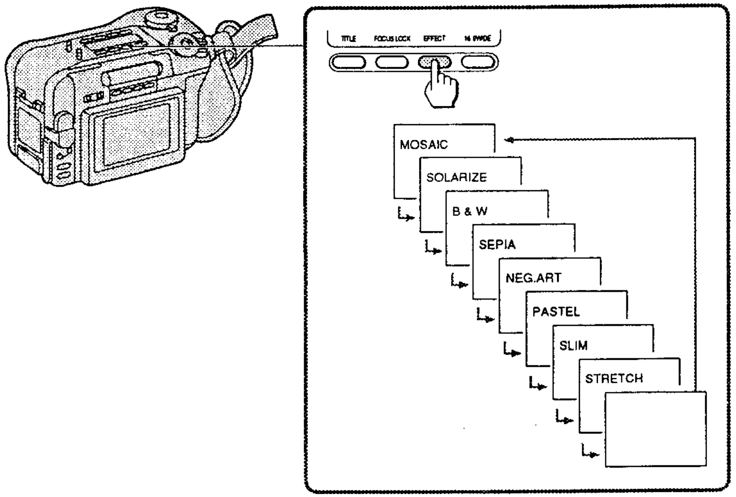
STRETCH [f]
La imagen se expande horizontalmente.

Using picture effect function

While in Standby mode, press EFFECT to select the desired Picture Effect mode.

Uso de la función de efecto de imagen

Pulse EFFECT en modo de espera para seleccionar el modo de efecto de imagen que desee.



Returning to normal mode

Press EFFECT repeatedly until the Picture Effect indicator disappears.

Note on the picture effect
When you turn the power off, the camcorder returns automatically to normal mode.

Restablecimiento del modo normal

Pulse EFFECT repetidamente hasta que desaparezca el indicador de efecto de imagen.

Nota sobre el efecto de imagen
Cuando se apaga la unidad, la videocámara vuelve automáticamente a modo normal.

Using the wide mode function

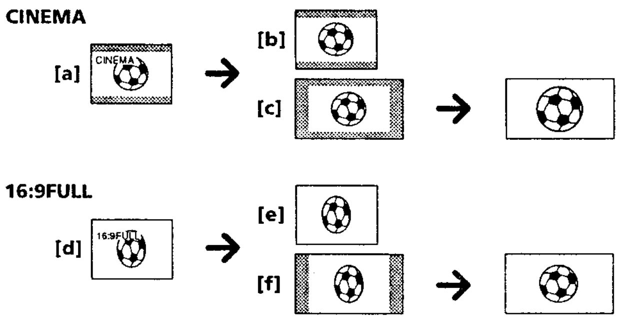
Uso de la función de modo panorámico

Selecting the desired mode

You can record a cinemalike picture (CINEMA) or a 16:9 wide picture to watch on the 16:9 wide-screen TV (16:9FULL).

Selección del modo deseado

Es posible grabar imágenes tipo cine (CINEMA) o imágenes panorámicas de 16:9 para visualizarlas en televisores de pantalla panorámica de 16:9 (16:9FULL).



CINEMA
Black bands appear at the top and the bottom of the screen, and the LCD screen **[a]** and a normal TV screen **[b]** look wide. You can also watch the picture without black bands on a wide-screen TV **[c]**.

16:9FULL
The picture on the LCD screen **[d]** or on a normal TV **[e]** is horizontally compressed. You can watch the picture of normal images on a wide-screen TV **[f]**.

CINEMA
Aparecen bandas negras en la parte superior e inferior de la pantalla, y la pantalla LCD **[a]** y la del televisor normal **[b]** muestran imágenes panorámicas. La imagen también puede verse sin bandas negras en televisores de pantalla panorámica **[c]**.

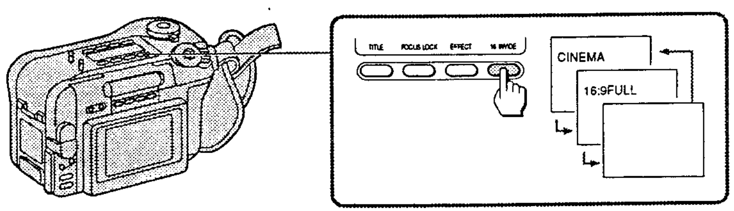
16:9FULL
La imagen de la pantalla LCD **[d]** o de un televisor normal **[e]** está comprimida horizontalmente. La imagen puede verse con normalidad en televisores de pantalla panorámica **[f]**.

Using the wide mode function

While the camcorder is in Standby mode, press 16:9WIDE repeatedly so that the desired mode indicator appears on the LCD screen.

Uso de la función de modo panorámico

Pulse repetidamente 16:9WIDE con la videocámara en modo de espera para que el indicador del modo que desee aparezca en la pantalla LCD.



To cancel wide mode

Press 16:9WIDE repeatedly until the wide mode indicator disappears.

To watch the tape recorded in wide mode

To watch the tape recorded in CINEMA mode, set the screen mode of the wide-screen TV to zoom mode. To watch the tape recorded in 16:9FULL mode, set it to full mode. For details, refer to the instruction manual of your TV.
Note that the picture recorded in 16:9FULL mode looks compressed on a normal TV.

Notes on wide mode

- If wide mode is set to 16:9FULL, the SteadyShot function does not work and the ℧ indicator flashes.
- When you record in 16:9FULL mode, the date or time indicator will be widened on the wide-screen TV.
- If you dub a tape, the tape is copied in the same mode as the original recording.
- The wide mode is cancelled automatically 5 minutes after you remove the power source.
- You cannot select or cancel the wide mode during recording.

Para cancelar el modo panorámico

Pulse 16:9WIDE repetidamente hasta que desaparezca el indicador de modo panorámico.

Para ver la cinta grabada en modo panorámico

Para ver la cinta grabada en modo CINEMA, ajuste el modo de pantalla del televisor de pantalla panorámica en modo zoom. Para ver la cinta grabada en modo 16:9FULL, ajústelo en modo total (FULL). Para más detalles, consulte el manual de instrucciones del televisor.
La imagen grabada en modo 16:9FULL parece comprimida en un televisor normal.

Notas sobre el modo panorámico

- Si el modo panorámico se ajusta en 16:9FULL, la función SteadyShot no se activa y el indicador ℧ parpadea.
- Cuando se graba en modo 16:9FULL, el indicador de fecha u hora se amplía en la pantalla panorámica del televisor.
- Si se duplica una cinta, ésta se copia en el mismo modo que la grabación original.
- El modo panorámico se cancela automáticamente 5 minutos después de haber retirado la fuente de alimentación.
- El modo panorámico no puede seleccionarse ni cancelarse durante la grabación.

Shooting scenery in several short takes

Long, continuous shots of scenery tend to be dull, and have to be edited to make an interesting video. With 5SEC. REC (5-second recording) mode, the camcorder records for only 5 seconds and then switches to Standby mode, so that you will automatically take a series of quick shots resulting in a lively video.

(1) Set START/STOP MODE to **5SEC**. Five dots appear on the LCD screen.

(2) Press START/STOP. Recording starts.

The dots disappear at a rate of one per second. When 5 seconds elapse and all the dots disappear, the camcorder switches to Standby mode automatically.

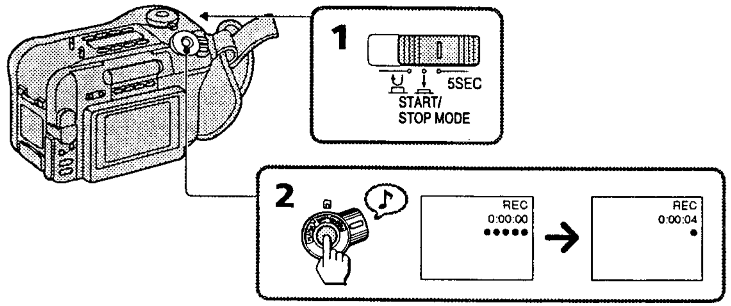
Videofilmación de escenarios en varias tomas cortas

Las tomas largas y continuas de escenarios tienden a ser aburridas y hay que editarlas para que el video sea interesante. Con el modo 5SEC. REC (grabación de 5 segundos), la videocámara graba sólo durante 5 segundos y después pasa a modo de espera para obtener automáticamente varias tomas rápidas que compongan un vídeo con ritmo.

(1) Ajuste START/STOP MODE en **5SEC**. En la pantalla LCD aparecerán 5 puntos.

(2) Pulse START/STOP. Empezará la grabación.

Los puntos desaparecen uno por segundo. Cuando transcurren 5 segundos y todos los puntos desaparecen, la videocámara pasa automáticamente a modo de espera.


1
5SEC
START/
STOP MODE
2
REC
0:00:00
●●●●●
REC
0:00:04
●

To extend the recording time

Press START/STOP again before all the dots disappear. Recording continues for 5 seconds from the moment you press START/STOP.

To cancel 5-second recording

Set START/STOP MODE to ♀. If you set the switch while recording, recording continues.

Note on 5-second recording

You cannot use FADER function during 5-second recording.

Para ampliar el tiempo de grabación

Pulse START/STOP otra vez antes de que desaparezcan todos los puntos. La grabación continuará durante otros 5 segundos desde el momento en que se pulse START/STOP.

Para cancelar la grabación de 5 segundos

Ajuste START/STOP MODE en ♀. Si el interruptor se ajusta durante la grabación, ésta continúa.

Nota sobre la grabación de 5 segundos

La función FADER no puede usarse durante la grabación de 5 segundos.

Superimposing a title

You can select from eight preset titles and two titles you made to superimpose over the picture while recording.

Each time you press TITLE while the camcorder is in Standby mode, the titles appear one by one. When you do not make titles, they are not displayed.

Selecting the language

(1) While the camcorder is in Standby mode, press MENU to display the menu on the LCD screen.

(2) Press ♦ or ♦ to select "TITLE LANG", then press EXECUTE.

(3) Press ♦ or ♦ to select the desired language, then press EXECUTE.

(4) Press MENU to erase the menu display.

Sobreimpresión de títulos

Es posible seleccionar entre ocho títulos predefinidos y dos títulos creados para sobreimprimirlos en la imagen durante la grabación.

Cada vez que se pulsa TITLE con la videocámara en modo de espera, los títulos van apareciendo uno a uno. Cuando no se han creado títulos, no aparecen.

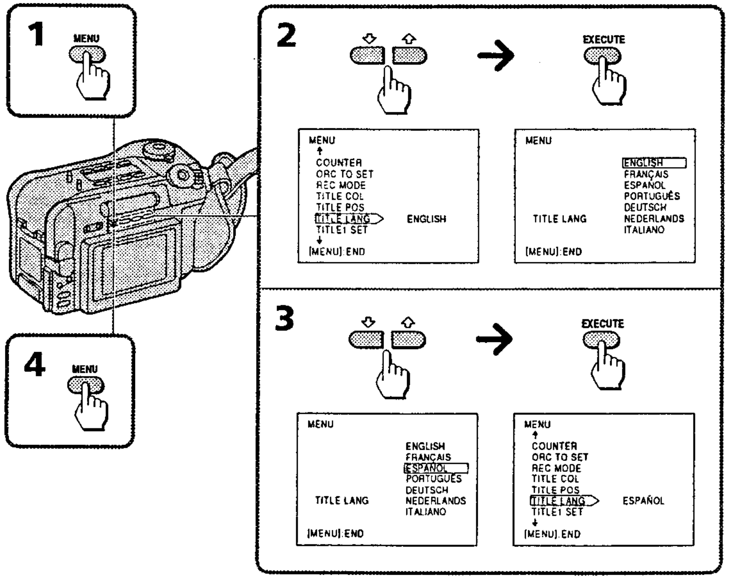
Selección del idioma

(1) Pulse MENU con la videocámara en modo de espera para ver el menú en la pantalla LCD.

(2) Pulse ♦ o ♦ para seleccionar "TITLE LANG" y después pulse EXECUTE.

(3) Pulse ♦ o ♦ para seleccionar el idioma que desee y después pulse EXECUTE.

(4) Pulse MENU para que el menú desaparezca de la pantalla.


1
MENU
4
MENU
2
EXECUTE
MENU
COUNTER
ORC TO SET
REC MODE
TITLE COL
TITLE POS
TITLE LANG
ENGLISH
TITLE1 SET
[MENU]:END
MENU
TITLE LANG
ENGLISH
FRANÇAIS
ESPAÑOL
PORTUGUÊS
DEUTSCH
NEDERLANDS
ITALIANO
[MENU]:END
3
EXECUTE
MENU
TITLE LANG
ENGLISH
FRANÇAIS
ESPAÑOL
PORTUGUÊS
DEUTSCH
NEDERLANDS
ITALIANO
[MENU]:END
MENU
COUNTER
ORC TO SET
REC MODE
TITLE COL
TITLE POS
TITLE LANG
ESPAÑOL
TITLE1 SET
[MENU]:END

Using titles

To superimpose from the beginning

(1) Set the POWER switch to CAMERA.
(2) Press TITLE repeatedly in Standby mode until the desired title appears. The title stops flashing and then stays lit. This means that the title is selected.
(3) Press START/STOP to start recording.
(4) Press TITLE when you want to turn off the title. The title disappears.

To superimpose on the way of recording

(1) Press TITLE repeatedly in Standby mode until the desired title appears. The title flashes.
(2) When the title stops flashing, press TITLE. The title disappears.
(3) Press START/STOP to start recording.
(4) Press TITLE when you want to superimpose the title.
(5) Press TITLE when you want to turn off the title.

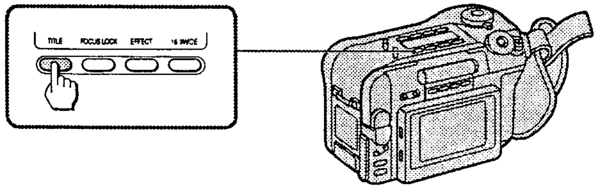
Uso de títulos

Para sobreimprimir desde el principio

(1) Ajuste el interruptor POWER en CAMERA.
(2) Pulse TITLE repetidamente en modo de espera hasta que aparezca el título que desee. El título deja de parpadear y permanece encendido, lo cual indica que se ha seleccionado dicho título.
(3) Pulse START/STOP para empezar a grabar.
(4) Pulse TITLE cuando desee desactivar el título. Este desaparecerá.

Para sobreimprimir en medio de la grabación

(1) Pulse TITLE repetidamente en modo de espera hasta que aparezca el título que desee. Este parpadeará.
(2) Cuando el título deje de parpadear, pulse TITLE. El título desaparecerá.
(3) Pulse START/STOP para empezar a grabar.
(4) Pulse TITLE cuando desee sobreimprimir el título.
(5) Pulse TITLE cuando desee desactivar el título.



Superimposing a title

Titles cycle as follows:
Original title 1 → Original title 2 → HELLO! → HAPPY BIRTHDAY → HAPPY HOLIDAYS → CONGRATULATIONS! → OUR SWEET BABY → WEDDING → VACATION → THE END
When you press TITLE with "THE END" displayed, the titles disappear. When you press TITLE once again, the titles begin from "HELLO!" or your original title.
The titles are displayed in the language you selected in the menu system.

If you have not stored any original titles
The titles begin from "HELLO!".

Notes on titles
- You cannot select a title during recording.
- While a title is displayed, the picture does not fade in or out.
- While fading in or fading out, you cannot superimpose a title.
- You cannot record a title and the date at the same time.
- You cannot record a title and the time at the same time.
- While the menu is displayed, the titles are not recorded.

To select the title colour

(1) Press MENU to display the menu on the LCD screen.
(2) Press ↓ or ↑ to select "TITLE COL", then press EXECUTE.
(3) Press ↓ or ↑ to select the desired colour, then press EXECUTE.
You can choose from the following 7 colours:
WHITE ←→ YELLOW ←→ VIOLET ←→ RED ←→ CYAN ←→ GREEN ←→ BLUE
(4) Press MENU to erase the menu display.

To select the title position

(1) Press MENU to display the menu on the LCD screen.
(2) Press ↓ or ↑ to select "TITLE POS", then press EXECUTE.
(3) Press ↓ or ↑ to select "CENTER" **[a]** or "BOTTOM" **[b]**, then press EXECUTE.
(4) Press MENU to erase the menu display.

Sobreimpresión de títulos

Los títulos siguen este ciclo:
Título original 1 → Título original 2 → HELLO! → HAPPY BIRTHDAY → HAPPY HOLIDAYS → CONGRATULATIONS! → OUR SWEET BABY → WEDDING → VACATION → THE END
Al pulsar TITLE mientras el visor muestra "THE END", el título desaparece. Si vuelve a pulsar TITLE, los títulos comienzan desde "HELLO!" o desde el título original.
Los títulos aparecen en el idioma seleccionado en el sistema de menús.

Si no se han almacenado títulos originales
Los títulos empiezan desde "HELLO!".

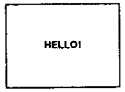
Notas sobre los títulos
- No se pueden seleccionar títulos durante la grabación.
- Mientras se visualiza un título la imagen no puede aparecer ni desaparecer gradualmente.
- Mientras aparece o desaparece gradualmente una imagen no es posible sobreimprimir títulos.
- No es posible grabar un título y la fecha a la vez.
- No es posible grabar un título y la hora a la vez.
- Los títulos no se graban mientras el menú se encuentra en pantalla.

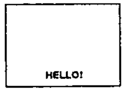
Para seleccionar el color del título

(1) Pulse MENU para ver el menú en la pantalla LCD.
(2) Pulse ↓ o ↑ para seleccionar "TITLE COL" y después pulse EXECUTE.
(3) Pulse ↓ o ↑ para seleccionar el color que desee y después pulse EXECUTE.
Puede elegir entre los 7 colores siguientes:
WHITE ←→ YELLOW ←→ VIOLET ←→ RED ←→ CYAN ←→ GREEN ←→ BLUE
(4) Pulse MENU para que el menú desaparezca de la pantalla.

Para seleccionar la posición del título

(1) Pulse MENU para ver el menú en la pantalla LCD.
(2) Pulse ↓ o ↑ para seleccionar "TITLE POS" y después pulse EXECUTE.
(3) Pulse ↓ o ↑ para seleccionar "CENTER" **[a]** o "BOTTOM" **[b]** y después pulse EXECUTE.
(4) Pulse MENU para que el menú desaparezca de la pantalla.

[a]


[b]


Making your own original titles

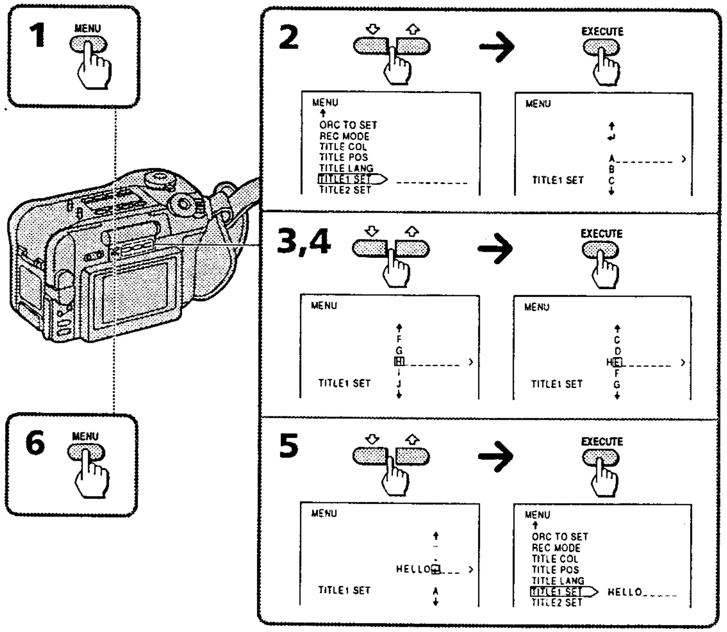
You can make two titles of up to 22 characters each, and store them in memory.

(1) While the camcorder is in Standby mode, press MENU to display the menu on the LCD screen.
(2) Press ↓ or ↑ to select TITLE1 SET or TITLE2 SET, then press EXECUTE.
(3) Press ↓ or ↑ to select the desired character, then press EXECUTE.
(4) Repeat step 3 until you finish the title.
(5) Press ↓ or ↑ to select ↵, then press EXECUTE. The title is stored in memory.
(6) Press MENU to erase the menu display.

Creación de títulos originales

Es posible crear dos títulos de hasta 22 caracteres cada uno y almacenarlos en la memoria.

(1) Pulse MENU con la videocámara en modo de espera para ver el menú en la pantalla LCD.
(2) Pulse ↓ o ↑ para seleccionar TITLE1 SET o TITLE2 SET y después pulse EXECUTE.
(3) Pulse ↓ o ↑ para seleccionar el carácter que desee y después pulse EXECUTE.
(4) Repita el paso 3 hasta que termine el título.
(5) Pulse ↓ o ↑ para seleccionar ↵ y después pulse EXECUTE. El título se almacenará en la memoria.
(6) Pulse MENU para que el menú desaparezca de la pantalla.



To erase the title you have made

Press MENU, select the title you want to erase, and press EXECUTE. Select ↵ at the leftmost character, then press EXECUTE.
Do not select the blank to erase a character. Otherwise, the blank is stored as a title in memory.

To change the title you have made

In step 2, select TITLE1 SET or TITLE2 SET, depending on which title you want to change, then press EXECUTE. Select the desired characters again.

If you enter 22 characters in step 4
The title is stored immediately (and you can skip step 5).

If it takes more than 5 minutes to make a title
If the Standby mode lasts for more than 5 minutes with a cassette inserted, the power will be turned off automatically. If it takes more than 5 minutes to make a title, remove the cassette. The power will not be turned off. If the power is turned off while you are making a title, set the POWER switch to OFF once, then to CAMERA. The title you have made remains stored in memory.

Advancing the characters rapidly
Keep pressing ↓ or ↑.

Making a blank
Select a blank. It is counted as a character.

Para borrar el título creado

Pulse MENU, seleccione el título que desee borrar y pulse EXECUTE. Seleccione ↵ en el carácter del extremo izquierdo y después pulse EXECUTE.
No seleccione espacios en blanco para borrar un carácter, pues se almacenarán como títulos en la memoria.

Para cambiar el título creado

En el paso 2, seleccione TITLE1 SET o TITLE2 SET, según el título que desee modificar, y después pulse EXECUTE. Seleccione otra vez los caracteres que desee.

Si introduce 22 caracteres en el paso 4
El título se almacenará inmediatamente (y podrá saltarse el paso 5).

Si tarda más de 5 minutos en crear un título
Si el modo de espera dura más de 5 minutos con un videocassette insertado, la alimentación se apaga automáticamente. Si tarda más de 5 minutos en crear un título, retire el videocassette. La alimentación no se apagará. Si se apaga la alimentación mientras crea un título, ajuste una vez el interruptor POWER en OFF y luego en CAMERA. El título creado permanecerá almacenado en la memoria.

Avance rápido de caracteres
Mantenga pulsado ↓ o ↑.

Creación de un espacio en blanco
Seleccione un espacio en blanco. Se contará como un carácter.

Releasing the STEADYSHOT function

When you shoot, the Ʊ indicator appears on the LCD screen. This indicates that the SteadyShot function is working and the camcorder compensates for camera-shake.

You can release the SteadyShot function when you do not need to use the SteadyShot function. Do not use the SteadyShot function when shooting a stationary object with a tripod.

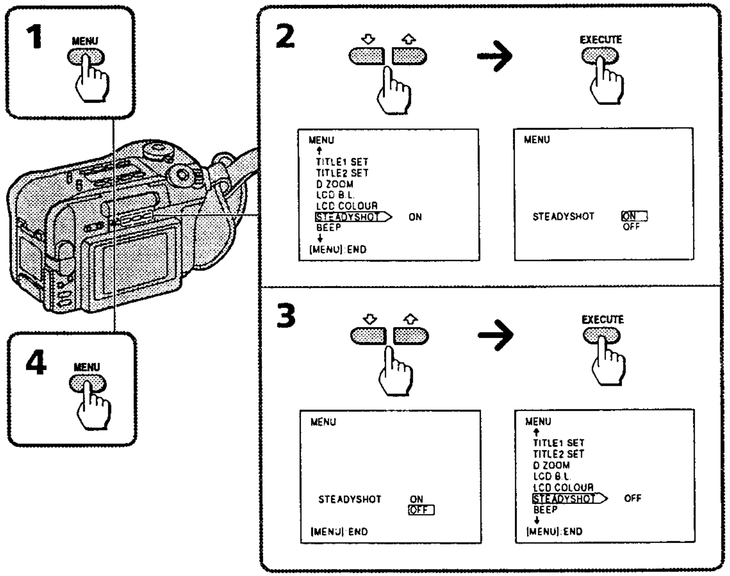
(1) Press MENU to display the menu on the LCD screen.
(2) Press ↓ or ↑ to select STEADYSHOT, then press EXECUTE.
(3) Press ↓ or ↑ to select OFF, then press EXECUTE.
(4) Press MENU to erase the menu display.

Desactivación de la función STEADYSHOT

El indicador Ʊ aparece en la pantalla LCD durante una videofilmación. Esto indica que la función SteadyShot está activa y que la videocámara compensa las sacudidas de la cámara.

La función SteadyShot puede desactivarse cuando no sea necesaria. No utilice la función SteadyShot cuando videofilme un objeto estacionario con un trípode.

(1) Pulse MENU para ver el menú en la pantalla LCD.
(2) Pulse ↓ o ↑ para seleccionar STEADYSHOT y después pulse EXECUTE.
(3) Pulse ↓ o ↑ para seleccionar OFF y después pulse EXECUTE.
(4) Pulse MENU para que el menú desaparezca de la pantalla.


1
MENU
4
MENU
2
EXECUTE
MENU
TITLE1 SET
TITLE2 SET
D ZOOM
LCD B.L.
LCD COLOUR
STEADYSHOT ON
BEEP
[MENU]: END
MENU
STEADYSHOT ON
OFF
3
EXECUTE
MENU
STEADYSHOT ON
OFF
[MENU]: END
MENU
TITLE1 SET
TITLE2 SET
D ZOOM
LCD B.L.
LCD COLOUR
STEADYSHOT OFF
BEEP
[MENU]: END

Releasing the STEADYSHOT function

To activate the SteadyShot function again

Select ON in step 3, then press EXECUTE.

Notes on the SteadyShot function

- The SteadyShot function will not correct excessive camera-shake.
- When you switch the SteadyShot function on or off, the exposure may fluctuate.
- When you record in 16:9FULL mode, the SteadyShot function does not work and the Ʊ indicator flashes.
- When the SteadyShot function is released, the Ʊ indicator does not appear.

Desactivación de la función STEADYSHOT

Para volver a activar la función SteadyShot

Seleccione ON en el paso 3 y después pulse EXECUTE.

Notas sobre la función SteadyShot

- La función SteadyShot no corrige sacudidas excesivas de la cámara.
- La exposición puede fluctuar al encender o apagar la función SteadyShot.
- Cuando se graba en modo 16:9FULL, la función SteadyShot no funciona y el indicador Ʊ parpadea.
- Cuando se desactiva la función SteadyShot, el indicador Ʊ no aparece.

Using the PROGRAM AE function

You can select from six PROGRAM AE (Auto Exposure) modes to suit your shooting situation. When you use PROGRAM AE, you can get a Portrait effect (the subject is in focus and the background is out of focus), capture high-speed action, record night views, etc.

Selecting the best mode

Select one of six modes, referring to the following.

Spotlight mode
Recording a subject spotlighted on a stage or at a wedding ceremony, etc.

Soft Portrait mode
To record
- A still subject such as a person or flower
- A softened picture
- A person in clearer flesh tones

Sports lesson mode
Capturing high-speed action in sports such as golf or tennis

Beach & Ski mode
Recording a person in a place such as on the beach or in the ski slopes where there is a lot of reflection

Sunset & Moon mode
Recording sunset, night views, fireworks or neon signs

Landscape mode
Recording a landscape through a window or wire net

Uso de la función PROGRAM AE

Hay seis modos PROGRAM AE (exposición automática) entre los que puede seleccionarse el que se adapte mejor a la situación de videofilmación. Con PROGRAM AE es posible obtener un efecto retrato (el sujeto está enfocado y el fondo está desenfocado), captar acciones de alta velocidad, grabar vistas nocturnas, etc.

Selección del mejor modo

Seleccione uno de los seis modos según lo siguiente.

Modo de foco
Grabación de un sujeto en foco en un escenario o en una ceremonia de boda, etc.

Modo retrato suave
Para grabar
- Sujetos estables, como una persona o una flor
- Imágenes suavizadas
- Personas con tonos más claros de piel

Modo deportivo
Captación de acciones en alta velocidad de deportes como golf o tenis

Modo playa y esquí
Grabación de personas en lugares como playas o pistas de esquí donde hay muchos reflejos

Modo ocaso y luna
Grabación de puestas del sol, vistas nocturnas, fuegos artificiales y señales de neón

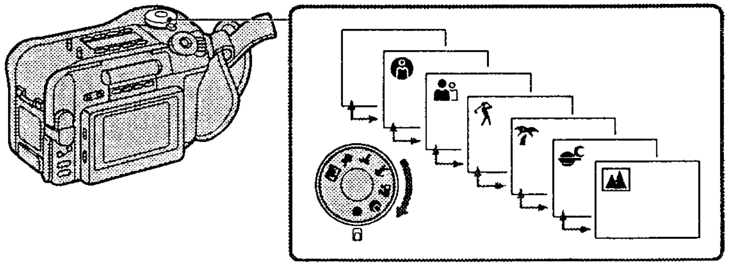
Modo paisaje
Grabación de paisajes a través de una ventana o una red

Using the PROGRAM AE function

Notes on focus setting
- In the Spotlight, Sports lesson and Beach & Ski modes, you cannot take close-ups because the camcorder is set to focus only on subjects in the middle to far distance.
- In the Sunset & Moon and Landscape modes, the camcorder is set to focus only on distant subjects.

Using the PROGRAM AE function

While the camcorder is in recording or Standby mode, turn the PROGRAM AE dial so that the symbol of the desired PROGRAM AE mode matches the indication on the camcorder. The indicator of the selected mode appears on the LCD screen.



To return to automatic adjustment mode

Turn the PROGRAM AE dial so that the ● matches the indication on the camcorder. The indicator of the PROGRAM AE mode disappears.

Note on shutter speed
The shutter speed in each PROGRAM AE mode is as follows:
Soft Portrait mode – from 1/50 to 1/425
Sports lesson mode – from 1/215 to 1/4000
Beach & Ski mode – from 1/50 to 1/215

Uso de la función PROGRAM AE

Notas sobre el ajuste del enfoque
- En los modos de foco, deportivo y playa y esquí no pueden tomarse primeros planos porque la videocámara está ajustada para enfocar únicamente sujetos situados a media distancia o lejos.
- En el modo ocaso y luna y el modo paisaje, la videocámara está ajustada para enfocar sólo sujetos distantes.

Uso de la función PROGRAM AE

Gire el dial PROGRAM AE con la videocámara en modo de grabación o modo de espera para que el símbolo del modo PROGRAM AE que desee se adapte a la indicación de la videocámara. El indicador del modo seleccionado aparecerá en la pantalla LCD.

Para restablecer el modo de ajuste automático

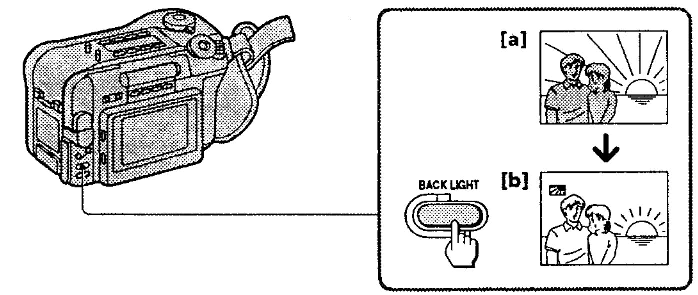
Gire el dial PROGRAM AE para que ● se adapte a la indicación de la videocámara. El indicador del modo PROGRAM AE desaparecerá.

Nota sobre la velocidad del obturador
La velocidad del obturador de cada modo PROGRAM AE es la siguiente:
Modo retrato suave – de 1/50 a 1/425
Modo deportivo – de 1/215 a 1/4000
Modo playa y esquí – de 1/50 a 1/215

Shooting with backlighting

When you shoot a subject with the light source behind the subject or a subject with a light background, use the BACK LIGHT function.

Press BACK LIGHT. The ▣ indicator appears on the LCD screen.



[a] Subject is too dark because of backlight.
[b] Subject becomes bright with backlight compensation.

After shooting

Be sure to release this adjustment condition by pressing BACK LIGHT again. The ▣ indicator disappears. Otherwise, the picture will be too bright under normal lighting condition.

This function is also effective under the following conditions:

- A subject with a light source nearby or a mirror reflecting light
- A white subject against a white background. Especially when you shoot a person wearing shiny clothes made of silk or synthetic fibre, his or her face tends to become dark if you do not use this function.

Videofilmación con iluminación a contraluz

Cuando videofilme un sujeto con una fuente de luz detrás o un sujeto con fondo claro, use la función BACK LIGHT.

Pulse BACK LIGHT. La pantalla LCD mostrará el indicador ▣.

[a] El sujeto es demasiado oscuro por la iluminación a contraluz.
[b] El sujeto cobra brillo con la compensación de la iluminación a contraluz.

Después de la videofilmación

Cerciórese de liberar esta condición de ajuste pulsando otra vez BACK LIGHT. Desaparecerá el indicador ▣. Si no lo libera, la imagen será demasiado brillante en condiciones normales de iluminación.

Esta función también es útil en las siguientes condiciones:

- Sujetos con una fuente de luz cercana o un espejo que refleje la luz
- Sujetos blancos con un fondo blanco. En especial, cuando se videofilma a una persona que lleva un atuendo brillante de seda o fibra sintética, su rostro tiende a oscurecerse si no se usa esta función.

Optimizing the tape condition before recording

Set the ORC TO SET in the menu to automatically adjust the recording condition of the tape to get the best possible recording.

(1) Insert a cassette, and press MENU to display the menu on the LCD screen before starting recording.
(2) Press ↓ or ↑ to select the ORC TO SET, then press EXECUTE. "START/STOP KEY" appears on the LCD screen.
(3) Press START/STOP. "ORC" blinks for about 9 seconds on the LCD screen. If "ORC" disappears, it means that setting is completed. Once you eject a cassette, the setting returns to the default.

If you have already performed this function, "ORC ON" is displayed when you select ORC TO SET in the menu system.

Note on ORC TO SET setting

When you eject a cassette, the ORC TO SET setting is released. Set ORC TO SET when you insert a cassette. When you set ORC TO SET, the recording on the tape is erased for about 0.1 second so that the camcorder can check the tape condition. Be careful when you use a recorded tape. The 0.1 second blank is erased if you record from the point where you set ORC TO SET for more than 2 seconds, or if you record over the blank. You cannot set ORC TO SET for a cassette with its tab out (red).

Optimización de las condiciones de la cinta antes de grabar

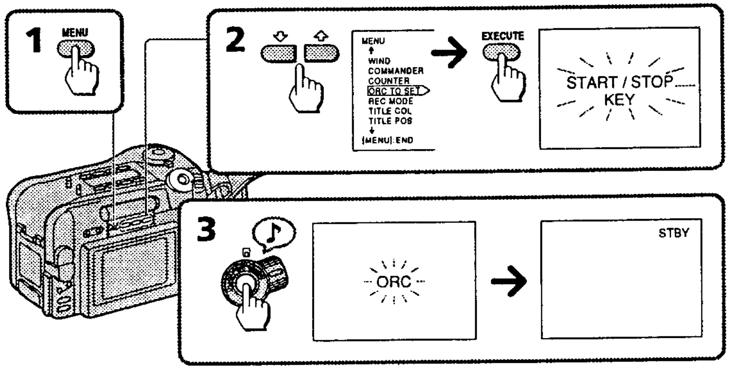
Ajuste ORC TO SET en el menú para ajustar automáticamente la condición de grabación de la cinta y obtener la mejor grabación posible.

(1) Inserte un videocassette y pulse MENU para visualizar el menú en la pantalla LCD antes de iniciar la grabación.
(2) Pulse ↓ o ↑ para seleccionar ORC TO SET y después pulse EXECUTE. La pantalla LCD mostrará "START/STOP KEY".
(3) Pulse START/STOP. "ORC" parpadeará durante unos 9 segundos en la pantalla LCD. Si "ORC" desaparece, significa que el ajuste está finalizado. Al extraer el videocassette se restablecerá el ajuste por omisión.

Si ya ha realizado esta función, "ORC ON" aparece cuando se selecciona ORC TO SET en el sistema de menús.

Nota sobre el ajuste ORC TO SET

Cuando se expulsa el videocassette, el ajuste de ORC TO SET desaparece. Ajuste ORC TO SET cuando que inserte un videocassette. Al ajustar ORC TO SET, la grabación de la cinta se interrumpe durante aproximadamente 0,1 segundos para que la videocámara pueda comprobar el estado de la cinta. Preste atención cuando utilice cintas grabadas, ya que el espacio en blanco de 0,1 segundos se borrará si graba durante más de 2 segundos a partir del punto donde ajustó ORC TO SET, o si graba sobre dicho espacio en blanco. ORC TO SET no puede ajustarse con videocassettes que tengan la lengüeta fuera (roja).

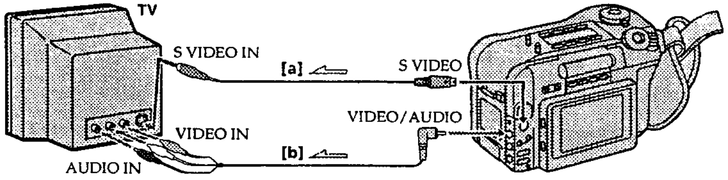


Watching on a TV screen

Reproducción en pantallas de televisior

You can use the camcorder as a VCR. Connect the camcorder to the inputs on the TV using the supplied A/V connecting cable. Set the TV/VCR selector on the TV to VCR. Procedure to play back is the same as when playing back on the LCD screen. Turn down the volume of the camcorder.
If you are going to connect the camcorder using S video cable (not supplied) **[a]**, you do not need to connect the yellow (video) plug of the A/V connecting cable **[b]**.

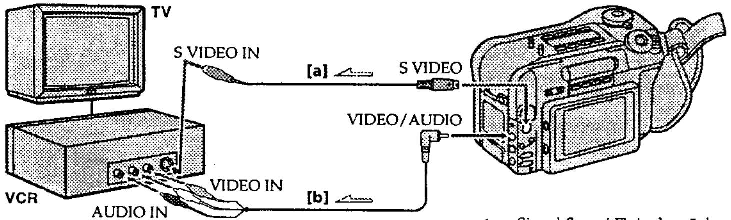
La videocámara puede utilizarse como videograbadora. Conecte la videocámara a las entradas del televisor con el cable de conexión A/V suministrado. Ajuste el selector TV/VCR del televisor en VCR. El procedimiento de reproducción es el mismo que para reproducir en la pantalla LCD. Baje el volumen de la videocámara.
Si va a conectar la videocámara con un cable de vídeo S (no suministrado) **[a]**, no es necesario conectar el enchufe amarillo (vídeo) del cable de conexión A/V **[b]**.



⊲ : Signal flow / Flujo de señales

If your VCR is already connected to a TV
Connect the camcorder to the LINE IN inputs on the VCR by using the A/V connecting cable. Set the input selector on the VCR to LINE. Set the TV/VCR selector on the TV to VCR.

Si la videograbadora ya está conectada a un televisor
Conecte la videocámara a las entradas LINE IN de la videograbadora con el cable de conexión A/V. Ajuste el selector de entrada de la videograbadora en LINE. Ajuste el selector TV/VCR del televisor en VCR.



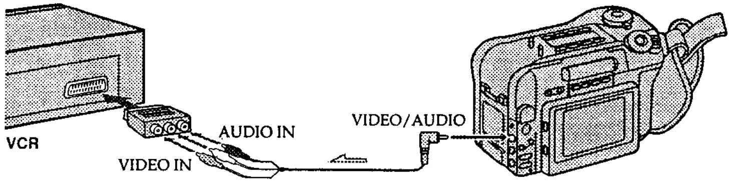
⊲ : Signal flow / Flujo de señales

If your TV or VCR is a monaural type
Connect the yellow plug of the A/V connecting cable for video to the TV or VCR. Connect only the white or red plug for audio to the TV or VCR. If you connect the white plug, the sound is L (left) signal. If you connect the red plug, the sound is R (right) signal.

If your VCR / TV has a 21-pin connector (EUROCONNECTOR)
Use the supplied 21-pin connector.

Si el televisor o la videograbadora son del tipo monofónico
Conecte el enchufe amarillo para vídeo del cable de conexión A/V al televisor o la videograbadora. Conecte sólo el enchufe blanco o rojo para audio al televisor o la videograbadora. Si conecta el enchufe blanco, el sonido es la señal L (izquierda). Si conecta el rojo, el sonido es la señal R (derecha).

Si la videograbadora o el TV dispone de un conector de 21 terminales (EUROCONNECTOR)
Utilice el conector de 21 terminales suministrado.



⊲ : Signal flow / Flujo de señales

Monitoring the picture from a TV or VCR
You can monitor the picture on the LCD screen. Connect the camcorder to the outputs on the TV or VCR.

Control de la imagen desde un televisor o una videograbadora
La imagen puede controlarse en la pantalla LCD. Conecte la videocámara a las salidas del televisor o de la videograbadora.

Searching the boundaries of recorded tape

Búsqueda de los límites de la fecha de grabación

You can search for the boundary between recording dates using the Date Code automatically recorded on the tape.
There are two modes:

- Searching for the beginning of a specific date, and playing back from there (**Date Search**)
- Searching for the beginning of all days, one after another and playing back about 10 seconds of each (**Date Scan**)

Each time you press DATE SEARCH, the mode changes as follows:

Date Search → Date Scan → Nothing → Date Search

To search for the beginning of a specific date

(1) Set the POWER switch to PLAYER.
(2) Press DATE SEARCH on the Remote Commander.
(3) When the current position is **[b]**, press ◀◀ to search towards **[a]** or press ▶▶ to search towards **[c]**.

To scan the beginning of all days

(1) Set the POWER switch to PLAYER.
(2) Press DATE SCAN on the Remote Commander twice.
(3) Press ◀◀ or ▶▶. Date Scan starts.

Usando el código de datos grabado automáticamente en la cinta es posible buscar los límites entre fechas de grabación.
Hay dos modos:

- Buscar el principio de una fecha específica y reproducir desde aquí (**búsqueda de fecha**).
- Buscar el principio de todos los días, uno detrás del otro, y reproducir aproximadamente 10 segundos de cada uno (**exploración de fecha**).

Cada vez que se pulsa DATE SEARCH, el modo cambia de la siguiente manera:

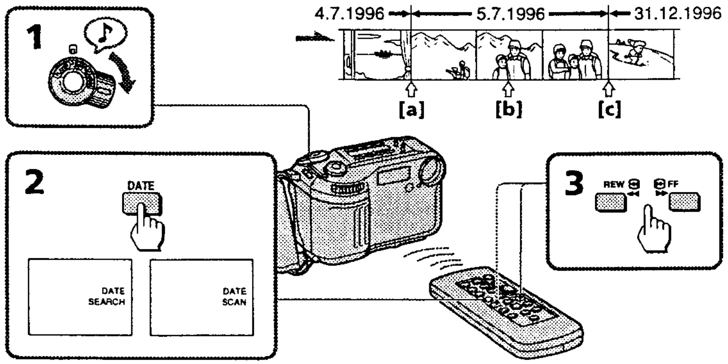
Búsqueda de fecha → Exploración de fecha → Nada → Búsqueda de fecha

Para buscar el principio de una fecha específica

(1) Ajuste el interruptor POWER en PLAYER.
(2) Pulse DATE SEARCH en el mando a distancia.
(3) Cuando la posición actual sea **[b]**, pulse ◀◀ para buscar hacia **[a]** o pulse ▶▶ para buscar hacia **[c]**.

Para explorar el principio de todos los días

(1) Ajuste el interruptor POWER en PLAYER.
(2) Pulse DATE SCAN dos veces en el mando a distancia.
(3) Pulse ◀◀ o ▶▶. Empezará la exploración de fecha.



To stop searching or scanning
Press one of the following tape transport buttons: ▶, ■, ◀◀ or ▶▶.

To view pictures during searching or scanning
Press ▶ and then press ◀◀ or ▶▶.

Notes on Date Search and Date Scan mode

- If a day's recording is not longer than 2 minutes, the camcorder may not accurately find its boundaries.
- Date Search and Date Scan do not function on a tape recorded by a camcorder without the Data Code function.

Para detener la búsqueda o la exploración
Pulse uno de los siguientes botones de transporte de cinta: ▶, ■, ◀◀ o ▶▶.

Para ver imágenes durante la búsqueda o exploración
Pulse ▶ y luego ◀◀ o ▶▶.

Notas sobre los modos de búsqueda de fecha y exploración de fecha

- Si la grabación de un día no es superior a 2 minutos, es posible que la videocámara no pueda encontrar los límites con exactitud.
- La búsqueda de fecha y la exploración de fecha no funcionan en cintas grabadas en videocámaras que no posean la función de código de datos.

Returning to a pre-registered position

Using the Remote Commander, you can easily go back to the desired point on a tape after playback. Use the tape counter. When the RC time code appears on the LCD screen, set COUNTER to NORMAL in the menu system to display the tape counter.

(1) During playback, press DISPLAY to display the tape counter on the LCD screen. Then, press COUNTER RESET at the point you later want to locate. The counter shows "0:00:00" on the LCD screen.

(2) Press ■ when you want to stop playback.

(3) Press ZERO MEM on the Remote Commander. The ZERO MEM indicator flashes on the LCD screen.

(4) Press ◀◀ to rewind or press ▶▶ to fast-forward the tape to the counter's zero point. The tape stops automatically when the counter reaches approximately zero.

Localización de posiciones registradas de antemano

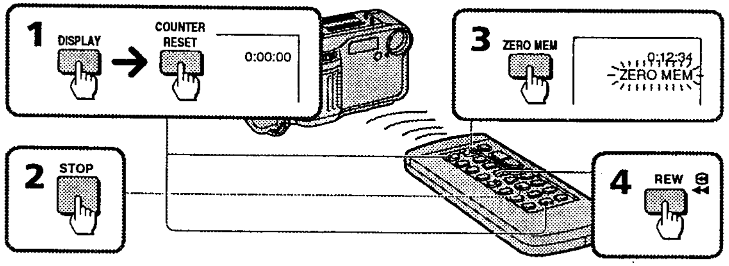
Con el mando a distancia es fácil retroceder al punto que se desee en una cinta después de reproducirla. Utilice el contador de cinta. Cuando aparezca el código de tiempos RC en la pantalla LCD, ajuste COUNTER en NORMAL en el sistema de menús para ver el contador de cinta.

(1) Durante la reproducción, pulse DISPLAY para visualizar el contador de cinta en la pantalla LCD. A continuación, pulse COUNTER RESET en el punto que desee localizar más adelante. El contador mostrará "0:00:00" en la pantalla LCD.

(2) Pulse ■ cuando desee detener la reproducción.

(3) Pulse ZERO MEM en el mando a distancia. El indicador ZERO MEM parpadeará en la pantalla LCD.

(4) Pulse ◀◀ para rebobinar o ▶▶ para que la cinta avance rápidamente hasta el punto cero del contador. La cinta se detendrá automáticamente cuando el contador se ponga aproximadamente a cero.



Notes on the tape counter
- Something must be recorded on the tape in order for the tape counter to function. Tape counter does not work on a blank tape.
- There may be a discrepancy of several seconds from the actual time.

Notes on ZERO MEM
- When you press ZERO MEM, the counter's zero point is memorized. Press ZERO MEM again to cancel the memory.
- This function is cancelled automatically once the tape is rewound or advanced to the point you pre-registered.
- ZERO MEM does not function during playing back.
- ZERO MEM does not function when COUNTER is set to TIME CODE in the menu system.

Notas sobre el contador de cinta
- Para que el contador funcione la cinta debe contener alguna grabación. El contador de cinta no funciona en cintas vírgenes.
- Puede darse una discrepancia de varios segundos con respecto a la hora real.

Notas sobre ZERO MEM
- Cuando se pulsa ZERO MEM se memoriza el punto cero del contador. Vuelva a pulsar ZERO MEM para cancelar la memoria.
- Esta función se cancela automáticamente después de rebobinar o avanzar la cinta rápidamente al punto registrado de antemano.
- ZERO MEM no funciona durante la reproducción.
- ZERO MEM no funciona si COUNTER está ajustado en TIME CODE en el sistema de menús.

Locating the marking position

If you mark an index signal during recording or playback, you can easily locate the beginning of a desired programme later.

Marking an index signal

You can mark an index signal during recording or playback with the Remote Commander.

When marking at the beginning of recording or playback

Press INDEX MARK on the Remote Commander in Standby or playback pause mode. The INDEX MARK indicator appears on the LCD screen with the MARK indicator flashing. When recording or playback starts, the MARK indicator stops flashing. This shows that the index signal is being marked. Then the INDEX MARK indicator will disappear.

When marking during recording or playback

Press INDEX MARK on the Remote Commander at the point you want to locate later.

Localización de posiciones marcadas

Si inserta una señal de índice durante la grabación o la reproducción, posteriormente podrá localizar con facilidad el inicio del programa deseado.

Marcado de una señal de índice

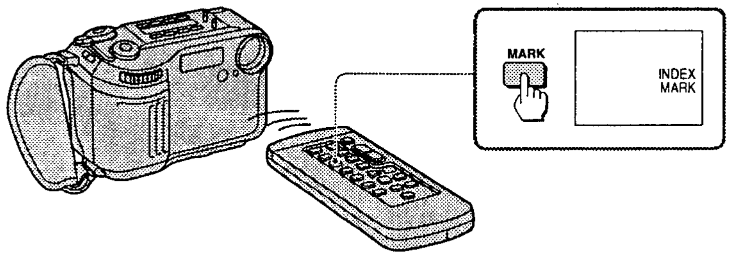
Pueden marcarse señales de índice durante la grabación o reproducción con el mando a distancia.

Cuando se marca al principio de la grabación o reproducción

Pulse INDEX MARK en el mando a distancia en modo de espera o de pausa de reproducción. En la pantalla LCD aparecerá el indicador INDEX MARK con el indicador MARK parpadeando. Cuando empiece la grabación o reproducción, el indicador MARK dejará de parpadear. Esto significa que la señal de índice ya está marcada. A continuación desaparecerá el indicador INDEX MARK.

Cuando se marca durante la grabación o reproducción

Pulse INDEX MARK en el mando a distancia en el punto que desee localizar más tarde.



[illegible]

Notes on marking

- Make sure you mark index signals at more than two-minute intervals. Otherwise, you may not be able to search for them correctly.
- If you stop recording while the index signal is being marked (the INDEX MARK indicator lights on the LCD screen), the search may not be completed correctly.
- If you mark an index signal on the tape with the Data Code, the Data Code will be erased at the point on which the index signal is marked. When playing back this tape, the camcorder keeps displaying the Data Code immediately before the erased one. If the Data Code does not exist for more than 30 seconds, the Data Code displays bars (--).
- A black band appears when you mark the index signal during playback, and you cannot hear the sound. This does not affect the picture and the sound that are already recorded.
- You cannot mark an index signal on a tape with the red mark on the cassette exposed.
- You cannot mark an index when you set START/STOP MODE to ⊥ or 5SEC.

Notas sobre el marcado

- Cerciórese de marcar señales de índice a intervalos de más de dos minutos. En caso contrario no podrá buscarlas correctamente.
- Si detiene la grabación mientras marca la señal de índice (el indicador INDEX MARK se ilumina en la pantalla LCD), es posible que la búsqueda no se efectúe correctamente.
- Si marca en la cinta una señal de índice con el código de datos, éste se borrará en el punto en que se ha marcado la señal de índice. Al reproducir esta cinta, la videocámara siempre mostrará el código de datos inmediatamente anterior al borrado. Si el código de datos deja de existir durante más de 30 segundos, el código de datos muestra barras (--).
- Cuando se marca una señal de índice durante la reproducción, aparece una banda negra y no puede escucharse el sonido. Esto no afecta a la imagen y al sonido ya grabados.
- No es posible marcar señales de índice en cintas con la marca roja del videocassette al descubierto.
- No es posible insertar un índice cuando START/STOP MODE se ajusta en ⊥ o 5SEC.

Locating the marking position

Localización de posiciones marcadas

Scanning the beginning of each marking position – index scan

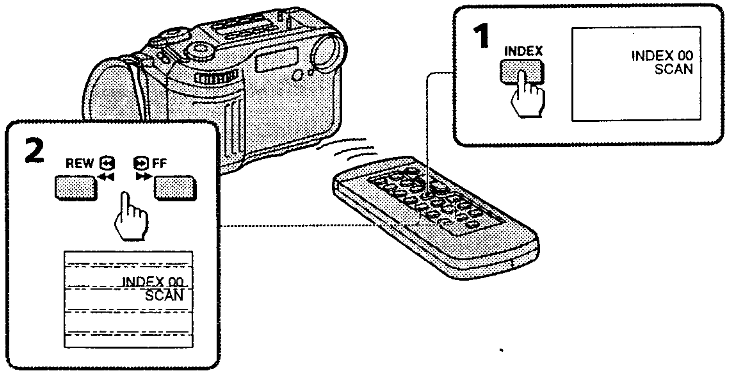
(1) Press INDEX on the Remote Commander during normal playback or stop.

(2) Press ◀◀ or ▶▶. The tape rewinds or advances rapidly and plays back for approximately 10 seconds from the point on which the index signal was marked. If you want to continue playback, press ▶. When you do not press any button, the tape is automatically scanned to the next programme.

Exploración del principio de cada posición de marcado – exploración de índice

(1) Pulse INDEX en el mando a distancia durante la reproducción o parada normal.

(2) Pulse ◀◀ o ▶▶. La cinta se rebobinará o avanzará rápidamente y se reproducirá durante aproximadamente 10 segundos desde el punto en que se haya marcado la señal de índice. Pulse ▶ si desea continuar la reproducción. Si no pulsa ningún botón, la cinta se explora automáticamente hasta el siguiente programa.



To cancel index scan mode

Press ▶. Normal playback resumes.

Para cancelar el modo de exploración de índice

Pulse ▶. Se reanudará la reproducción normal.

Locating the desired marking position – index search

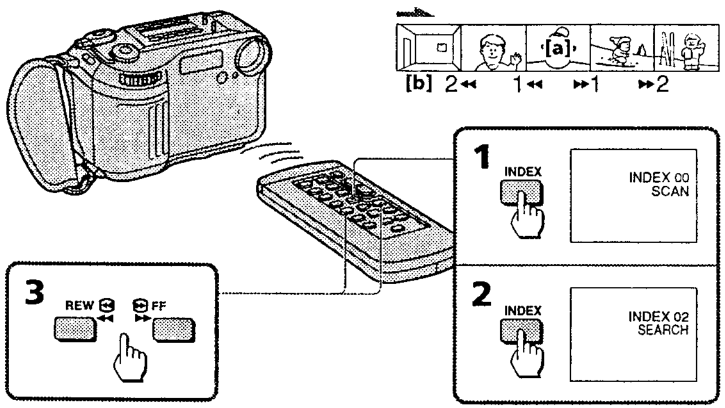
(1) Press INDEX on the Remote Commander during stop or playback mode.
(2) Press INDEX repeatedly until the index number of the desired programme is displayed on the LCD screen.
(3) Press ◀◀ or ▶▶. Playback starts from the beginning of the desired programme.

[a] the current position
[b] the index number

Localización de la posición de marcado deseada – búsqueda de índice

(1) Pulse INDEX en el mando a distancia en modo de parada o reproducción.
(2) Pulse INDEX repetidamente hasta que el número de índice del programa que desee aparezca en la pantalla LCD.
(3) Pulse ◀◀ o ▶▶. La reproducción comenzará desde el principio del programa que desee.

[a] posición actual
[b] número de índice



To stop index search mode

Press ▶. Normal playback resumes.

Note on the index number

The index number (1, 2, etc.) indicates the distance from the point you are now viewing **[a]**, regardless of the direction.

Para detener el modo de búsqueda de índice

Pulse ▶. Se reanudará la reproducción normal.

Nota sobre el número de índice

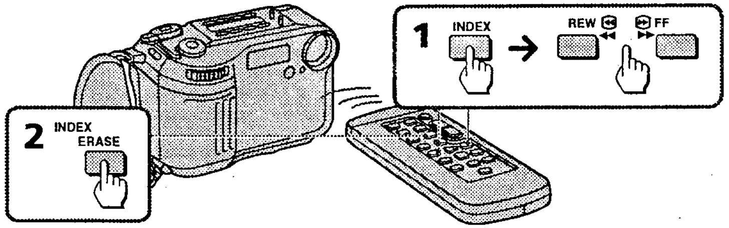
El número de índice (1, 2, etc.) indica la distancia con respecto al punto que se está visualizando en ese momento **[a]**, independientemente de la dirección.

Erasing an index signal

(1) Locate the index signal to be erased using the index scan or index search function.
(2) Press INDEX ERASE on the Remote Commander within 2 to 10 seconds while the desired programme plays back. After the index signal is erased, the camcorder returns to index scan or index search mode, whichever was used in step 1.

Borrado de una señal de índice

(1) Localice la señal de índice que va a borrar con la función de exploración de índice o de búsqueda de índice.
(2) Pulse INDEX ERASE en el mando a distancia de 2 a 10 segundos mientras reproduce el programa que desee. Una vez borrada la señal de índice, la videocámara volverá a modo de exploración de índice o de búsqueda de índice, según el que se haya usado en el paso 1.



Notes on erasing

- Press INDEX ERASE more than 2 seconds after the playback of the desired programme begins.
- You cannot erase the index signal on a tape with the red mark on the cassette exposed.
- While the index signal is being erased, the sound cannot be heard and a black band appears at the bottom of the picture. This will not affect the recorded sound or picture.
- The camcorder can detect index signals marked with VCRs, but may not erase them. VCRs with an index function can detect index signals marked with this camcorder but cannot erase them.
- An index signal may be erased when making PCM after recording on another VCR in the portion where the index signal is marked.

Note on Data Code

When an index signal is erased, the Data Code on the same portion of the tape is also erased.

Notas sobre el borrado

- Pulse INDEX ERASE más de 2 segundos después de que comience la reproducción del programa que desee.
- No es posible borrar señales de índice en cintas que tengan la marca roja del videocassette al descubierto.
- Mientras se borra una señal de índice, no es posible oír el sonido y aparece una banda negra en la parte inferior de la imagen. Esto no afecta al sonido ni la imagen grabados.
- La videocámara puede detectar señales de índice marcadas con videograbadoras, pero no borrarlas. Las videograbadoras con función de índice pueden detectar señales de índice marcadas con esta videocámara, pero no borrarlas.
- Es posible borrar señales de índice durante reproducciones PCM después de grabar en otra videograbadora en la porción donde se ha marcado la señal de índice.

Nota sobre el código de datos

Cuando se borra una señal de índice, también se borra el código de datos de esa porción de la cinta.

Writing the RC time code on a recorded tape

You can write the RC time code on a recorded tape. Use the Remote Commander.

(1) While pressing the small green button on the POWER switch, set it to PLAYER.

(2) Set COUNTER to TIME CODE in the menu system.

(3) Press DISPLAY. The RC time code indicator appears on the LCD screen.

(4) Rewind the tape to the beginning and set the camcorder to playback pause mode.

(5) Press TIME CODE WRITE on the Remote Commander. The TIME CODE WRITE indicator appears on the LCD screen with the WRITE indicator flashing.

(6) Press ► or ❚❚ to start playback. The WRITE indicator stops flashing and the RC time code writing starts from 0:00:00:00.

Escritura del código de tiempos RC en cintas grabadas

El código de tiempos RC puede escribirse en cintas grabadas. Use el mando a distancia.

(1) Ajuste el interruptor POWER en PLAYER mientras pulsa el botón pequeño verde del interruptor.

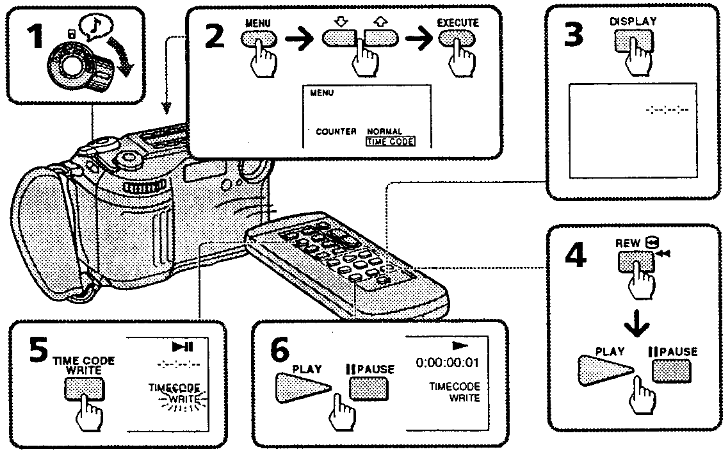
(2) Ajuste COUNTER en TIME CODE en el sistema de menús.

(3) Pulse DISPLAY. El indicador de código de tiempos RC aparece en la pantalla LCD.

(4) Rebobine la cinta hasta el principio y ajuste la videocámara en modo de pausa de reproducción.

(5) Pulse TIME CODE WRITE en el mando a distancia. El indicador TIME CODE WRITE aparecerá en la pantalla LCD con el indicador WRITE parpadeando.

(6) Pulse ► o ❚❚ para empezar la reproducción. El indicador WRITE dejará de parpadear y la escritura del código de tiempos RC empezará a partir de 0:00:00:00.



To stop writing the RC time code

Press ■ (or any tape transport button).

Para detener la escritura del código de tiempos RC

Pulse ■ (o cualquier botón de transporte de cinta).

To write the RC time code from the end of the RC time code recorded portion

Rewind the tape to the portion on which the RC time code has been written and set the camcorder to playback pause mode. Then follow steps 5 and 6 on the previous page. The RC time code is written continuously.

Notes on writing the RC time code

- The RC time code writing stops when:
  - you press TIME CODE WRITE again before starting playback.
  - you press INDEX before starting playback.
  - you change from playback mode to another mode.
- When you are writing the RC time code from the middle of a tape without the time code written, writing starts several frames before the current picture.
- If you write the RC time code on a recorded tape, the Data Code and index signal are erased.
- The RC time code written in LP mode may not be read correctly.
- You cannot mark the RC time code on a tape with its record protect tab out (red).
- When you are writing the RC time code, the sound cannot be heard and a black band appears at the bottom of the picture.

Note on --:--:--:-- indicator

The --:--:--:-- indicator appears during playback if:

- nothing is recorded.
- the RC time code is unreadable because of the damage of the tape or because of the noise.
- you recorded using another VCR without RC time code function.
- you erase the index signal or make PCM after recording on another VCR in the portion on which the RC time code is written.

In this case, we recommend you to rewrite the RC time code.

Para escribir el código de tiempos RC desde el final de la porción grabada del código de tiempos RC

Rebobine la cinta hasta la porción en que se haya escrito el código de tiempos RC y ajuste la videocámara en modo de pausa de reproducción. Después siga los pasos 5 y 6 de la página anterior. El código de tiempos RC se escribirá continuamente.

Notas sobre la escritura del código de tiempos RC

- La escritura del código de tiempos RC se detiene cuando:
  - se vuelve a pulsar TIME CODE WRITE antes de empezar la reproducción.
  - se pulsa INDEX antes de empezar la reproducción.
  - se cambia de modo de reproducción a otro modo.
- Cuando se escribe el código de tiempos RC desde el medio de una cinta que no contiene el código de tiempos escrito, la escritura comienza varios fotogramas antes de la imagen actual.
- Si escribe el código de tiempos RC en una cinta grabada, el código de datos y la señal de índice se borrarán.
- El código de tiempos RC escrito en modo LP puede no leerse correctamente.
- El código de tiempos RC no puede marcarse en cintas con la lengüeta de protección contra grabación al descubierto (roja).
- Mientras escribe el código de tiempos RC, el sonido no se oye y aparece una banda negra en la parte inferior de la imagen.

Nota sobre el indicador --:--:--:--

El indicador --:--:--:-- aparece durante la reproducción si:

- no se graba nada.
- el código de tiempos RC es ilegible por estar la cinta dañada o por ruidos.
- ha grabado con otra videograbadora que no posee función de código de tiempos RC.
- ha borrado la señal de índice o ha realizado una reproducción PCM después de grabar en otra videograbadora en la porción en que se ha escrito el código de tiempos RC.

En este caso, es recomendable volver a escribir el código de tiempos RC.

Editing onto another tape

Edición en otra cinta

You can create your own video programme by editing with any other 8 8 mm, Hi8 Hi8, VHS VHS, S-VHS S-VHS, VHS-C VHSC, S-VHS-C S-VHSC, or β Betamax VCR that has audio/video inputs.

Before editing

Connect the camcorder to the VCR using the supplied A/V connecting cable. Set the TV/VCR selector on the TV to VCR. Set the input selector on the VCR to LINE, if available.

(1) While pressing the small green button on the POWER switch, set it to PLAYER.

(2) Set EDIT to ON in the menu system.

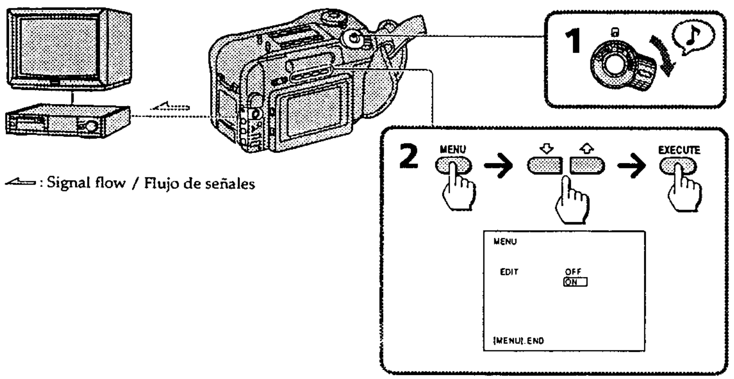
Puede crear su propio programa de vídeos editando con otras videograbadoras 8 de 8 mm, Hi8 Hi8, VHS VHS, S-VHS S-VHS, VHS-C VHSC, S-VHS-C S-VHSC o β Betamax que tengan entradas de audio/vídeo.

Antes de editar

Conecte la videocámara a la videograbadora con el cable de conexión A/V suministrado. Ajuste el selector TV/VCR del televisor en VCR. Ajuste el selector de entrada de la videograbadora en LINE, si está disponible.

(1) Ajuste el interruptor POWER en PLAYER mientras pulsa el botón verde pequeño del interruptor.

(2) Ajuste EDIT en ON en el sistema de menús.



⟵ : Signal flow / Flujo de señales

If your TV or VCR is a monaural type
Connect the yellow plug of the A/V connecting cable for video to the TV or VCR. Connect only the white or red plug for audio to the TV or VCR. If you connect the white plug, the sound is L (left) signal. If you connect the red plug, the sound is R (right) signal.

Si el televisor o la videograbadora son del tipo monofónico
Conecte el enchufe amarillo para vídeo del cable de conexión A/V al televisor o la videograbadora. Conecte sólo el enchufe blanco o rojo para audio al televisor o la videograbadora. Si conecta el blanco, el sonido es la señal L (izquierda). Si conecta el rojo, el sonido es la señal R (derecha).

Starting editing

Turn down the volume of the camcorder while editing. Otherwise, picture distortion may occur.

(1) Insert a blank tape (or a tape you want to record over) into the VCR, and insert your recorded tape into the camcorder.

(2) Play back the recorded tape on the camcorder until you locate the point where you want to start editing, then press ⏸ to set the camcorder in playback pause mode.

(3) On the VCR, locate the recording start point and set the VCR in recording pause mode.

(4) Press ⏸ on the camcorder and VCR simultaneously to start editing.

To edit more scenes

Repeat steps 2 to 4.

To stop editing

Press ■ on both the camcorder and the VCR.

Comienzo de la edición

Baje el volumen de la videocámara mientras edita. Si no lo hace, la imagen puede distorsionarse.

(1) Inserte una cinta virgen (o una sobre la que desee grabar) en la videograbadora e inserte la cinta grabada en la videocámara.

(2) Reproduzca la cinta grabada en la videocámara hasta que localice el punto donde desea empezar a editar y después pulse ⏸ para ajustar la videocámara en modo de pausa de reproducción.

(3) Localice en la videograbadora el punto inicial de grabación y ajuste la videograbadora en modo de pausa de grabación.

(4) Pulse ⏸ simultáneamente en la videocámara y la videograbadora para empezar a editar.

Para editar más escenas

Repita los pasos 2 a 4.

Para detener la edición

Pulse ■ en la videocámara y la videograbadora.

Charging the vanadium-lithium battery in the camcorder

Your camcorder is supplied with a vanadium-lithium battery installed so as to retain the date and time, etc., regardless of the setting of the POWER switch. The vanadium-lithium battery is always charged as long as you are using the camcorder. The battery, however, will get discharged gradually if you use the camcorder for a short time. It will be completely discharged in about 1 year if you do not use the camcorder for a long period. Even if the vanadium-lithium battery is not charged, it will not affect the camcorder operation. To retain the date and time, etc., charge the battery if the battery is discharged. The following are charging methods:

- Connect the camcorder to mains using the supplied AC power adaptor, and leave the camcorder with the POWER switch turned off for more than 24 hours.
- Install the fully charged battery pack in the camcorder, and leave the camcorder with the POWER switch turned off for more than 24 hours.

When disposing of the camcorder

Remove the vanadium-lithium battery, and dispose of the camcorder and the vanadium - lithium battery according to the disposal system in your country.

(1) Unscrew the screws tightening the speaker section with a screwdriver.

(2) Pick out the vanadium-lithium battery.

Carga de la pila de vanadio-litio en la videocámara

La videocámara se suministra con una pila de vanadio-litio para conservar la fecha y hora, etc., independientemente del ajuste del interruptor POWER. La pila de vanadio-litio está siempre cargada siempre que se use la videocámara. Sin embargo, la pila se descarga gradualmente si la videocámara se usa pocas veces y completamente en cerca de un año si no se usa durante un largo período. El funcionamiento de la videocámara no se ve afectado aunque la pila de vanadio-litio no esté cargada. Para conservar la hora y la fecha, etc., cargue la pila si está descargada. Los métodos de carga son los siguientes:

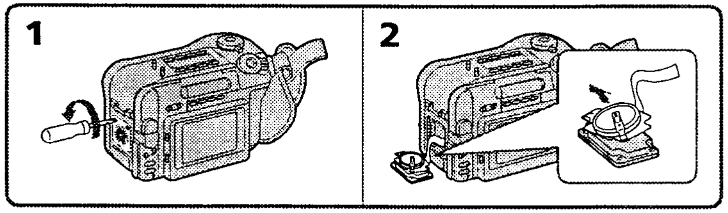
- Conecte la videocámara a corriente doméstica con el adaptador de alimentación de CA suministrado y deje la videocámara con el interruptor POWER apagado durante más de 24 horas.
- Instale el paquete de baterías totalmente cargado en la videocámara y déjela con el interruptor POWER apagado durante más de 24 horas.

Cuando desee desechar la videocámara

Retire la pila de vanadio-litio y deseche la videocámara y la pila según el sistema establecido en su país.

(1) Desatornille los tornillos que fijan la sección del altavoz con un destornillador.

(2) Extraiga la pila de vanadio-litio.



Resetting the date and time

The date and time are set at the factory. Set the time according to the local time in your country. If you do not use the camcorder for about a year, the date and time settings may be released (bars may appear) because the vanadium-lithium battery installed in the camcorder will have been discharged. In this case, first charge the vanadium-lithium battery, then reset the date and time.

(1) While pressing the small green button on the POWER switch, set it to CAMERA.

(2) Press MENU to display the menu on the LCD screen.

(3) Select CLOCK SET, then press EXECUTE.

(4) Press ♦ or ♦ to adjust the year, and then press EXECUTE.

(5) Set the month, day, hour and minutes by pressing ♦ or ♦ and pressing EXECUTE.

(6) Press MENU to erase the menu display.

Reajuste de fecha y hora

La fecha y la hora se ajustan en fábrica. Ajuste la hora según el horario local de su país. Si no utiliza la videocámara durante un año, la fecha y la hora pueden borrarse (aparecen barras) debido a que la pila de vanadio-litio instalada se ha descargado. En ese caso, cargue en primer lugar la pila de vanadio-litio y, a continuación, vuelva a ajustar la fecha y la hora.

(1) Ajuste el interruptor POWER en CAMERA mientras pulsa el botón verde pequeño del interruptor.

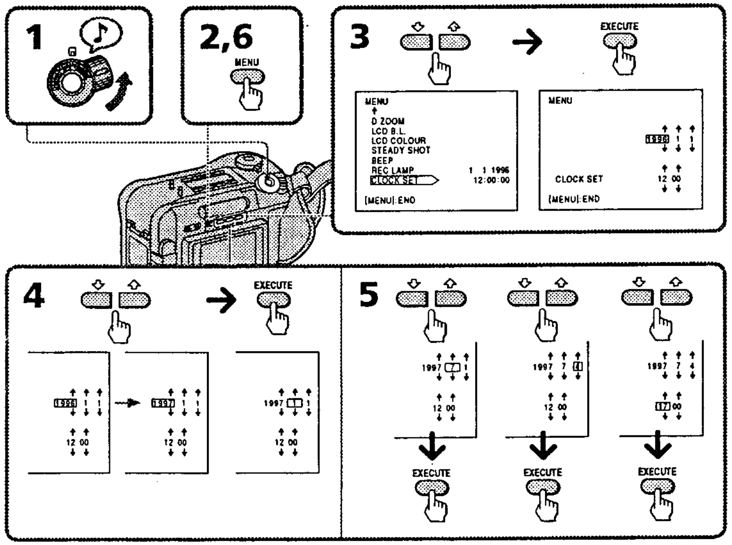
(2) Pulse MENU para ver el menú en la pantalla LCD.

(3) Seleccione CLOCK SET y después pulse EXECUTE.

(4) Pulse ♦ o ♦ para ajustar el año y después pulse EXECUTE.

(5) Ajuste el mes, el día, la hora y los minutos pulsando ♦ o ♦ y pulsando EXECUTE.

(6) Pulse MENU para que el menú desaparezca de la pantalla.



To correct the date and time setting
Repeat steps 2 to 4.

To check the preset date and time
Press DATE to display the date indicator on the LCD screen.
Press TIME to display the time indicator.
When you press the same button again, the indicator goes off.

The year indicators changes as follows:

1996 → 1997 →... 2000 ... → 2029
↑_______________________________|

Note on the time indicator
The internal clock of this camcorder operates on a 24-hour cycle.

Para corregir los ajustes de fecha y hora
Repita los pasos 2 a 4.

Para comprobar la fecha y hora predefinidas
Pulse DATE para ver el indicador de fecha en la pantalla LCD.
Pulse TIME para ver el indicador de hora.
El indicador desaparecerá cuando vuelva a pulsar el mismo botón.

Los indicadores de año cambian de la siguiente manera:

1996 → 1997 →... 2000 ... → 2029
↑_______________________________|

Nota sobre el indicador de hora
El reloj interno de esta videocámara funciona con sistema de 24 horas.

Usable cassettes and playback modes

Videocassettes utilizables y modos de reproducción

Selecting cassette types

This Hi8 system is an extension of the standard 8 mm systems, and was developed for higher-quality pictures.
You can use Hi8 video and standard 8 mm cassettes. When you want to record in the Hi8 system, use only Hi8 video cassettes. You cannot record on standard 8 mm cassettes in the Hi8 system.

When you play back

The playback mode (SP/LP mode or Hi8/standard 8 mm) is selected automatically according to the format in which the tape has been recorded. The quality of the recorded picture in LP mode, however, will not be as good as that in SP mode.

Note on AFM Hi-Fi stereo

When you play back a tape, the sound will be in monaural if:

- you record the tape using this camcorder, then play it back on an AFM Hi-Fi monaural video recorder/player.
- you record the tape on an AFM Hi-Fi monaural video recorder, then play it back on this camcorder.

Recording mode

When you play back a tape, the SP/LP indicator on the LCD screen shows the recording mode SP/LP.

Foreign 8 mm Video

You cannot play back tapes recorded on a different TV colour system. Because the TV colour systems differ from country to country, you may not be able to play back foreign pre-recorded tapes. Refer to the list of "Using your camcorder abroad" to check the TV colour system of foreign countries.

Selección de los tipos de videocassettes

Este sistema Hi8 es una ampliación de los sistemas de 8 mm estándar y se ha creado para obtener imágenes de más alta calidad.
Pueden utilizarse videocassettes para Hi8 y 8 mm estándar. Cuando desee grabar en el sistema Hi8, utilice sólo videocassettes para Hi8. No es posible grabar en videocassettes de 8 mm estándar en sistema Hi8.

Al reproducir

El modo de reproducción (modo SP/LP o Hi8/8 mm estándar) se selecciona automáticamente según el formato en que se ha grabado la cinta. Sin embargo, la calidad de la imagen grabada en modo LP no es tan alta como en modo SP.

Nota sobre AFM Hi-Fi estéreo

El sonido es monofónico al reproducir una cinta si:

- la cinta se graba con esta videocámara y luego se reproduce en una videograbadora/reproductora monofónica AFM Hi-Fi.
- la cinta se graba en una videograbadora AFM Hi-Fi monofónica y luego se reproduce en esta videocámara.

Modo de grabación

Cuando se reproduce una cinta, el indicador SP/LP de la pantalla LCD muestra el modo de grabación SP/LP.

Vídeo de 8 mm extranjero

No se pueden reproducir cintas grabadas en un sistema de color de televisión diferente. Los sistemas de color difieren de un país a otro, por lo que quizá no sea posible reproducir cintas pregrabadas en el extranjero. Consulte la lista de "Uso de la videocámara en el extranjero" para comprobar el sistema de color de televisión de otros países.

[illegible]

Playing back an NTSC-recorded tape

You can play back tapes recorded in NTSC video system using the SP mode. If the tape is recorded in the AFM Hi-Fi system, the AFM Hi-Fi sound is reproduced.
When you want to adjust the hue of the picture played back on a multi-system TV, set NTSC PB to NTSC 4.43 in the menu system. If you cannot obtain the result you want, select the appropriate TV colour system mode on your TV.

However, note that the following will occur during playback of an NTSC-recorded tape.

- You cannot play back a tape recorded in NTSC system with LP mode neither on the LCD nor on a TV screen.
- If a tape has portions recorded in PAL and NTSC video systems, the tape counter reading is not correct. This discrepancy is due to the difference between the counting cycle of the two video systems.
- You cannot edit the NTSC-recorded tape onto another VTR.

Reproducción de cintas grabadas en NTSC

Es posible reproducir cintas grabadas en el sistema de vídeo NTSC utilizando el modo SP. Si la cinta se ha grabado en el sistema AFM Hi-Fi, se reproducirá el sonido Hi-Fi de AFM.
Si desea ajustar el matiz de la imagen reproducida en un TV multisistema, ajuste NTSC PB en NTSC 4.43 en el sistema de menús. Si no puede obtener el resultado que desea, seleccione el modo adecuado de sistema de color de TV en el TV.

Sin embargo, ha de tenerse en cuenta que al reproducir cintas grabadas en NTSC ocurrirá lo siguiente:

- No es posible reproducir cintas grabadas en el sistema NTSC en el modo LP ni en la pantalla LCD ni en pantallas de TV.
- Si la cinta tiene partes grabadas en los sistemas de vídeo PAL y NTSC, la lectura del contador de cinta será incorrecta. La discrepancia se debe a la diferencia entre los ciclos de contador de los dos sistemas de vídeo.
- No es posible editar cintas grabadas en NTSC en otra videograbadora.

Tips for using the battery pack

This section shows you how you can get the most out of your battery pack.

Preparing the battery pack

Always carry additional batteries

Have sufficient battery pack power to do 2 to 3 times as much recording as you have planned.

Battery life is shorter in a cold environment

Battery efficiency is decreased, and the battery will be used up more quickly, if you are recording in a cold environment.

To save battery power

Do not leave the camcorder in Standby mode when not recording to save the battery power.
A smooth transition between scenes can be made even if recording is stopped and started again. While you are positioning the subject, selecting an angle, or looking at the LCD screen, the lens moves automatically and the battery is used. The battery is also used when a tape is inserted or removed.

Consejos para usar el paquete de baterías

Esta sección muestra cómo aprovechar al máximo el paquete de baterías.

Preparación del paquete de baterías

Lleve siempre pilas de repuesto

Intente que el paquete de baterías disponga de suficiente potencia para realizar de 2 a 3 veces las grabaciones que haya planeado.

La duración de la batería es más corta en ambientes fríos

La eficiencia de la batería disminuye y la batería se agota antes cuando se graba en ambientes fríos.

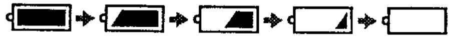
Para ahorrar potencia de la batería

No deje la videocámara en modo de espera mientras no graba para ahorrar potencia de la batería.
La transición entre escenas puede ser uniforme incluso deteniendo y reanudando la grabación. Mientras coloca al sujeto, selecciona el ángulo y visualiza la pantalla LCD el objetivo se mueve automáticamente y se usa la batería. La batería también se utiliza cuando se inserta o se extrae una cinta.

When to replace the battery pack

While you are using your camcorder, the remaining battery indicator on the LCD screen decreases gradually as battery power is used up **[a]**.
When using the InfoLITHIUM battery pack such as the NP-F530, the remaining time in minutes appears.

[a]



When the remaining battery indicator reaches the lowest point, the ⊏⊐ indicator appears and starts flashing on the LCD screen.
When the ⊏⊐ indicator on the LCD screen changes from slow flashing to rapid flashing while you are recording, set the POWER switch to OFF on the camcorder and replace the battery pack. Leave the tape in the camcorder to obtain a smooth transition between scenes after the battery pack has been replaced.
When you use the InfoLITHIUM battery pack, depending on conditions, the ⊏⊐ indicator may flash, even if there are 5 to 10 minutes remaining.

Notes on the rechargeable battery pack

Caution

Never leave the battery pack in temperatures above 60°C (140°F), such as in a car parked in the sun or under direct sunlight.

The battery pack heats up

During charging or recording, the battery pack heats up. This is caused by energy that has been generated and a chemical change that has occurred inside the battery pack. This is not cause for concern, and is normal.

Cuándo reponer el paquete de baterías

Mientras se usa la videocámara, el indicador de batería restante de la pantalla LCD disminuye gradualmente a medida que se agota la potencia de la batería **[a]**.
Cuando se utiliza el paquete de baterías InfoLITHIUM, como NP-F530, aparece el tiempo restante en minutos.

Cuando el indicador de batería restante llega al punto más bajo, aparece el indicador ⊏⊐ en la pantalla LCD y empieza a parpadear.
Cuando el indicador ⊏⊐ de la pantalla LCD pase de un parpadeo lento a uno rápido mientras graba, ajuste el interruptor POWER de la videocámara en OFF y sustituya el paquete de baterías. Deje la cinta en la videocámara para que la transición entre las escenas sea uniforme después de sustituir el paquete de baterías.
Cuando se utiliza el paquete de baterías InfoLITHIUM, el indicador ⊏⊐ puede parpadear, dependiendo de las condiciones, incluso si el tiempo restante es de 5 a 10 minutos.

Notas sobre el paquete de baterías recargable

Precaución

No deje nunca el paquete de baterías a temperaturas superiores a 60°C (140°F), como el interior de un automóvil aparcado al sol o bajo la luz solar directa.

El paquete de baterías se calienta

Durante la carga o la grabación, el paquete de baterías se calienta. Esto se debe a la energía generada y a un cambio químico producido dentro del paquete de baterías. No es motivo de preocupación y es normal.

Tips for using the battery pack

ⓘ InfoLITHIUM battery pack

The InfoLITHIUM battery pack is a lithium battery pack which can exchange data with compatible video equipment about its battery consumption.
Sony recommends that you use the InfoLITHIUM battery pack with video equipment having the ⓘ InfoLITHIUM mark.
When you use this battery pack with video equipment having the ⓘ InfoLITHIUM mark, the video equipment will indicate the remaining battery time in minutes.* However, if you use it with video equipment not having this mark, the remaining battery capacity will not be indicated in minutes.

* The indication may not be accurate depending on the condition and environment which the equipment is used under.

Battery pack care

- **Remove the battery pack from the camcorder after using it**, and keep it in a cool place. When the battery pack is installed to the camcorder, a small amount of current flows to the camcorder even if the POWER switch is set to OFF. This shortens battery life.
- The battery pack is always discharging even when it is not in use after charging. Therefore, you should charge the battery pack right before using the camcorder.

The switch on the battery pack

This switch is provided so that you can identify a charged battery pack. Set the switch to the "green mark" position when charging is completed. **[a]** (When the battery pack is removed from the AC power adaptor after charging, the switch automatically moves to the "green mark" position. However, when removed from the camcorder after charging, the switch does not change position.)

Consejos para usar el paquete de baterías

Paquete de baterías ⓘ InfoLITHIUM

InfoLITHIUM es un paquete de baterías de litio que puede intercambiar datos con un equipo de vídeo compatible sobre el consumo de pilas de éste.
Sony recomienda que se utilice el paquete de baterías InfoLITHIUM con equipos de vídeo que tengan la marca ⓘ InfoLITHIUM.
Cuando se usa este paquete de baterías con equipos de vídeo que llevan la marca ⓘ InfoLITHIUM, el equipo de vídeo indica el tiempo restante de la batería en minutos.* Sin embargo, si se utiliza con equipos de vídeo que no tienen dicha marca, la capacidad restante de la batería no se indica en minutos.

* La indicación puede ser imprecisa según las condiciones y el entorno en que se utiliza el equipo.

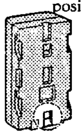
Cuidados del paquete de baterías

- **Retire el paquete de baterías de la videocámara después de usarla** y consérvelo en un lugar fresco. Cuando el paquete de baterías está instalado en la videocámara, una pequeña cantidad de corriente fluye a la videocámara incluso cuando el interruptor POWER está ajustado en OFF, lo cual acorta la duración de la batería.
- El paquete de baterías está siempre descargándose incluso cuando no se usa después de cargarlo. Por lo tanto, el paquete de baterías debe cargarse inmediatamente antes de usar la videocámara.

Interruptor del paquete de baterías

Este interruptor sirve para identificar un paquete de baterías cargado. Ajuste el interruptor en la posición de "marca verde" cuando la carga haya finalizado. **[a]** (Cuando el paquete de baterías se retira del adaptador de alimentación de CA después de cargarlo, el interruptor se desplaza automáticamente a la posición de "marca verde". Sin embargo, cuando se retira de la videocámara después de cargarlo, el interruptor no cambia de posición.)

[a]



The life of the battery pack

If the battery indicator flashes rapidly just after turning on the camcorder with a fully charged battery pack, the battery pack should be replaced with a new fully charged one.

Charging temperature

You should charge batteries at temperatures from 10°C to 30°C (from 50°F to 86°F). Lower temperatures require a longer charging time.

Notes on charging

A brand-new battery pack

A brand-new battery pack is not charged. Before using the battery pack, charge it completely.

Recharge the battery pack whenever you like

You do not have to discharge it before recharging. If you charged the battery pack fully but you did not use it for a long time, it becomes discharged. Then recharge the battery pack before use.

Notes on the terminals

If the terminals (metal parts on the back) are not clean, the battery charge duration will be shortened.

When the terminals are not clean or when the battery pack has not been used for a long time, repeatedly install and remove the battery pack a few times. This improves the contact condition. Also, wipe the + and – terminals with a soft cloth or paper.

Be sure to observe the following

- Keep the battery pack away from fire.
- Keep the battery pack dry.
- Do not open nor try to disassemble the battery pack.
- Do not expose the battery pack to any mechanical shock.

Duración del paquete de baterías

Si el indicador de la batería parpadea rápidamente inmediatamente después de encender la videocámara con un paquete de baterías totalmente cargado, el paquete debe sustituirse por uno nuevo totalmente cargado.

Temperatura de carga

Las baterías deben cargarse a temperaturas de 10°C a 30°C (50°F a 86°F). Temperaturas inferiores requieren un mayor período de carga.

Notas sobre la carga

Paquetes de baterías totalmente nuevos

Los paquetes nuevos no están cargados. Cárguelos completamente antes de usarlos.

Recargue el paquete de baterías siempre que lo desee

No es necesario descargarlo antes de recargarlo. El paquete se descarga si se ha cargado totalmente pero no se ha utilizado durante un largo período. Por lo tanto, recárguelo antes de usarlo.

Notas sobre los conectores

Si los conectores (componentes metálicos de la parte trasera) no están limpios, la duración de la carga de la batería será más corta.

Cuando los conectores no están limpios o no ha utilizado el paquete de baterías durante un largo período de tiempo, instale y retire repetidamente el paquete varias veces. De este modo mejorará las condiciones de contacto. Limpie también los conectores + y – con un papel o un trapo suave.

Observe lo siguiente

- Mantenga el paquete de baterías alejado del fuego.
- Mantenga el paquete de baterías seco.
- No abra ni intente desmontar el paquete de baterías.
- No exponga el paquete de baterías a golpes mecánicos.

Maintenance information and precautions

Moisture condensation

If the camcorder is brought directly from a cold place to a warm place, moisture may condense inside the camcorder, on the surface of the tape, or on the lens. In this condition, the tape may stick to the head drum and be damaged or the camcorder may not operate correctly. To prevent possible damage under these circumstances, the camcorder is furnished with moisture sensors. Take the following precautions.

Inside the camcorder

If there is moisture inside the camcorder, the beep sounds and the ◙ indicator flashes on the LCD screen. If this happens, none of the function except cassette ejection will work. Open the cassette compartment, turn off the camcorder, and leave it about 1 hour. When ⏏ indicator flashes at the same time, the cassette is inserted in the camcorder. Eject the cassette, turn off the camcorder, and leave also the cassette about 1 hour.

On the lens

If moisture condenses on the lens, no indicator appears, but the picture becomes dim. Turn off the power and do not use the camcorder for about 1 hour.

How to prevent moisture condensation

When bringing the camcorder from a cold place to a warm place, put the camcorder in a plastic bag and allow it to adapt to room conditions over a period of time.

(1) Be sure to tightly seal the plastic bag containing the camcorder.

(2) Remove the bag when the air temperature inside it has reached the temperature surrounding it (after about 1 hour).

Información y precauciones de mantenimiento

Condensación de humedad

Si la videocámara se traslada directamente de un lugar frío a uno cálido, puede condensarse humedad dentro de la videocámara, en la superficie de la cinta o en el objetivo. En tales condiciones, la cinta puede quedarse pegada al tambor del cabezal y dañarse, o quizá la videocámara no funcione correctamente. Para evitar posibles daños en estas circunstancias, la videocámara está provista de sensores de humedad. Tome las precauciones siguientes.

Dentro de la videocámara

Cuando hay humedad dentro de la videocámara suena un pitido y el indicador ◙ parpadea en la pantalla LCD. Si esto ocurre, ninguna función estará activa excepto la de extracción de la cinta. Abra el compartimiento del videocassette, apague la videocámara y déjela durante una hora aproximadamente. Cuando el indicador ⏏ parpadea a la vez, el videocassette está insertado en la videocámara. Extráigalo, apague la videocámara y deje también el videocassette durante una hora aproximadamente.

En el objetivo

Cuando se condensa humedad en el objetivo no aparece ningún indicador, pero la imagen se oscurece. Apague el aparato y no lo utilice durante 1 hora aproximadamente.

Cómo evitar la condensación de humedad

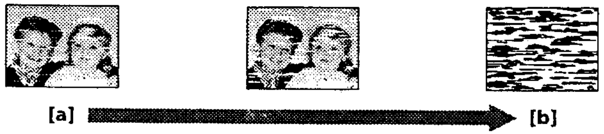
Cuando traslade la videocámara de un lugar frío a uno cálido, métala en una bolsa de plástico y deje que se adapte a las condiciones de la sala durante un período de tiempo.

(1) Cerciórese de cerrar la bolsa de plástico herméticamente.

(2) Retire la bolsa cuando la temperatura del aire dentro de ella haya alcanzado la temperatura que la rodea (transcurrida aproximadamente 1 hora).

Video head cleaning

To ensure normal recording and clear pictures, clean the video heads. When the ⊗ indicator and " 📼 CLEANING CASSETTE" message appear one after another on the LCD screen or playback pictures are "noisy" or hardly visible, the video heads may be dirty.



[a] Slightly dirty
[b] Very dirty

If this happens, clean the video heads with the Sony V8-25CLH cleaning cassette (not supplied). After checking the picture, if it is still "noisy," repeat the cleaning. (Do not repeat cleaning more than 5 times in one session.)

Caution

Do not use a commercially available wet-type cleaning cassette. It may damage the video heads.

Note

If the V8-25CLH cleaning cassette is not available in your area, consult your nearest Sony dealer.

Limpieza de los cabezales de vídeo

Limpie los cabezales de vídeo para garantizar una grabación normal e imágenes claras. Los cabezales pueden estar sucios cuando el indicador ⊗ y el mensaje " 📼 CLEANING CASSETTE" aparecen uno detrás del otro en la pantalla LCD o las imágenes de reproducción son "ruidosas" o apenas visibles.

[a] Ligeramente sucios
[b] Muy sucios

Si esto ocurre, limpie los cabezales de vídeo con el cassette limpiador Sony V8-25CLH (no suministrado). Si después de comprobar la imagen ésta aún es "ruidosa", repita la limpieza. (No repita la limpieza más de 5 veces en una sesión.)

Precaución

No use cassettes limpiadores de tipo húmedo disponibles comercialmente. Pueden dañar los cabezales de video.

Nota

Si el cassette limpiador V8-25CLH no está disponible en su zona, consulte al proveedor Sony más cercano.

Maintenance information and precautions

Información y precauciones de mantenimiento

Precautions

Camcorder operation

- Operate the camcorder on 7.2 V (battery pack) or 8.4 V/6.5 V (AC power adaptor).
- Should any solid object or liquid get inside the casing, unplug the camcorder and have it checked by Sony dealer before operating it any further.
- Avoid rough handling or mechanical shock. Be particularly careful of the lens.
- Keep the POWER switch set to OFF when not using the camcorder.
- Do not wrap up the camcorder and operate it since heat may build up internally.
- Keep the camcorder away from strong magnetic fields or mechanical vibration.
- Do not push the LCD screen.
- If the camcorder is used in a cold place, a residual image may appear on the LCD screen. This is not a malfunction.
- While using the camcorder, the back of the LCD screen may heat up. This is not a malfunction.

On handling tapes

Do not insert anything in the small holes on the rear of the cassette. These holes are used to sense the type of tape, thickness of tape and if the recording tab is in or out.

Camcorder care

- When the camcorder is not to be used for a long time, disconnect the power source and remove the tape. Periodically turn on the power, operate the camera and player sections and play back a tape for about 3 minutes.
- Clean the lens with a soft brush to remove dust. If there are fingerprints on the lens, remove them with a soft cloth.
- If fingerprints or dust are on the LCD screen, we recommend you remove them using the LCD cleaning kit (not supplied).
- Clean the camcorder body with a dry soft cloth, or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent which may damage the finish.

Precauciones

Funcionamiento de la videocámara

- Maneje la videocámara a 7,2 V (paquete de baterías) o 8,4 V/6,5 V (adaptador de alimentación de CA).
- Si entra algún objeto sólido o líquido al interior de la videocámara, desenchúfela y llévela al proveedor Sony para su comprobación antes de manejarla otra vez.
- Evite el manejo descuidado y los golpes mecánicos. Tenga especial cuidado con el objetivo.
- Mantenga el interruptor POWER ajustado en OFF cuando no utilice la videocámara.
- No envuelva la videocámara para usarla, puesto que puede acumularse calor internamente.
- Mantenga la videocámara alejada de campos magnéticos fuertes o vibraciones mecánicas.
- No presione la pantalla LCD.
- Si la videocámara se usa en lugares fríos, puede aparecer una imagen residual en la pantalla LCD. No se trata de un mal funcionamiento.
- La parte trasera de la pantalla LCD puede calentarse mientras se usa la videocámara. No se trata de un mal funcionamiento.

Manejo de cintas

No inserte nada en los pequeños orificios situados en la parte trasera del videocassette. Estos orificios sirven para identificar el tipo de cinta, su grosor y si la lengüeta de grabación está fuera o dentro.

Cuidados de la videocámara

- Si no va a usar la videocámara durante un largo período, desconecte la fuente de alimentación y retire la cinta. Encienda el aparato periódicamente, ponga en funcionamiento las secciones de cámara y reproductor y reproduzca una cinta durante unos 3 minutos.
- Limpie el objetivo con un cepillo suave para retirar el polvo. Si hay huellas dactilares en el objetivo, límpielas con un trapo suave.
- Si hay huellas dactilares o polvo en la pantalla LCD, es recomendable retirarlos con el kit de limpieza LCD (no suministrado).
- Limpie el cuerpo de la videocámara con un trapo suave y seco o un trapo ligeramente humedecido con un detergente suave. No utilice ningún tipo de disolvente que pueda dañar el acabado.

AC power adaptor

Charging

- Use only a lithium ion type battery pack.
- Place the battery pack on a flat surface without vibration during charging.
- The battery pack will get hot during charging. This is normal.

Others

- Unplug the unit from the mains when not in use for a long time. To disconnect the mains lead, pull it out by the plug. Never pull the cord itself.
- Do not operate the unit with a damaged cord or if the unit has been dropped or damaged.
- Do not bend the AC power cord forcibly, or put a heavy object on it. This will damage the cord and may cause a fire or an electrical shock.
- Be sure that nothing metallic comes into contact with the metal parts of the connecting plate. If this happens, a short may occur and the unit may be damaged.
- Always keep the metal contacts clean.
- Do not disassemble the unit.
- Do not apply mechanical shock or drop the unit.
- While the unit is in use, particularly during charging, keep it away from AM receivers and video equipment because it will disturb AM reception and video operation.
- The unit becomes warm while in use. This is normal.
- Do not place the unit in locations that are:
  - Extremely hot or cold
  - Dusty or dirty
  - Very humid
  - Vibrating

If any difficulty should arise, unplug the unit and contact your nearest Sony dealer.

Adaptador de alimentación de CA

Carga

- Use sólo paquetes de baterías tipo iones de litio.
- Durante la carga coloque el paquete de baterías sobre una superficie plana sin vibraciones.
- El paquete de baterías se calentará durante la carga. Es normal.

Otros

- Desenchufe la unidad de la toma de red cuando no vaya a usarla durante un largo período. Para desenchufar el cable de alimentación, tire del enchufe, nunca del cable propiamente dicho.
- No ponga en marcha la unidad con un cable deteriorado o si la unidad se ha caído o dañado.
- No fuerce el cable de alimentación de CA para doblarlo ni coloque objetos pesados sobre él. Podría dañar el cable y causar un incendio o una descarga eléctrica.
- Asegúrese de que no entra nada metálico en contacto con los componentes metálicos de la placa de conexión, pues puede producirse un cortocircuito y dañar la unidad.
- Mantenga siempre los contactos metálicos limpios.
- No desmonte la unidad.
- No dé golpes mecánicos a la unidad ni la deje caer.
- Mientras la unidad esté en uso, especialmente durante la carga, manténgala alejada de receptores de AM y equipos de vídeo, ya que puede perturbarse la recepción de AM y el funcionamiento del vídeo.
- La unidad se calienta durante su uso. Es normal.
- No coloque la unidad en lugares que sean:
  - Extremadamente cálidos o fríos
  - Polvorientos o sucios
  - Muy húmedos
  - Que vibren

Si surge alguna dificultad, desenchufe la unidad y póngase en contacto con el proveedor Sony más cercano.

Using your camcorder abroad

Each country has its own electric and TV colour systems. Before using your camcorder abroad, check the following points.

Power sources

You can use your camcorder in any country with the supplied AC power adaptor within 100 V to 240 V AC, 50/60 Hz.

Difference in colour systems

This camcorder is a PAL system-based camcorder. If you want to view the playback picture on a TV, it must be a PAL system-based TV.
Check the following list.

PAL system countries
Australia, Austria, Belgium, China, Denmark, Finland, Germany, Great Britain, Holland, Hong Kong, Italy, Kuwait, Malaysia, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, Thailand, etc.

PAL-M system country
Brazil

PAL-N system countries
Argentina, Paraguay, Uruguay

NTSC system countries
Bahama Islands, Bolivia, Canada, Central America, Chile, Colombia, Ecuador, Jamaica, Japan, Korea, Mexico, Peru, Surinam, Taiwan, the Philippines, the U.S.A., Venezuela, etc.

SECAM system countries
Bulgaria, Czech Republic, France, Guiana, Hungary, Iran, Iraq, Monaco, Poland, Russia, Slovak Republic, Ukraine, etc.

Uso de la videocámara en el extranjero

Cada país tiene su propio sistema eléctrico y de color de televisión. Antes de usar la videocámara en el extranjero, compruebe los puntos siguientes.

Fuentes de alimentación

La videocámara puede usarse en cualquier país con el adaptador de alimentación de CA suministrado entre 100 V a 240 V CA, 50/60 Hz.

Diferencia entre los sistemas de color

Esta videocámara está basada en el sistema PAL. Si desea visualizar la reproducción en un televisor, éste debe estar basado en el sistema PAL.
Compruebe la lista siguiente.

Países con sistema PAL
Alemania, Australia, Austria, Bélgica, China, Dinamarca, España, Finlandia, Gran Bretaña, Holanda, Hong Kong, Italia, Kuwait, Malasia, Noruega, Nueva Zelanda, Portugal, Singapur, Suecia, Suiza, Tailandia, etc.

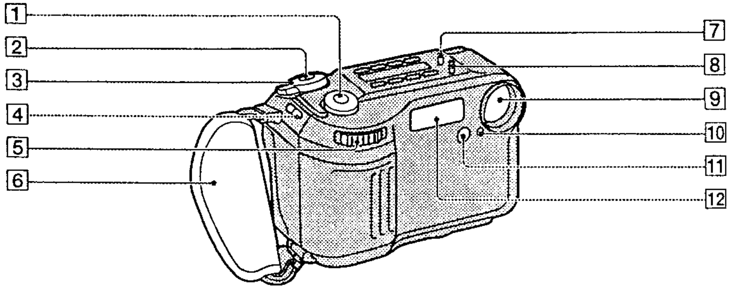
Países con sistema PAL-M
Brasil

Países con sistema PAL-N
Argentina, Paraguay, Uruguay

Países con sistema NTSC
Bolivia, Canadá, Centroamérica, Chile, Colombia, Corea, Ecuador, Estados Unidos de América, Islas Bahamas, Islas Filipinas, Jamaica, Japón, México, Perú, Surinam, Taiwán, Venezuela, etc.

Países con sistema SECAM
Bulgaria, Francia, Guayana, Hungría, Irán, Iraq, Mónaco, Polonia, República Checa, República Eslovaca, Rusia, Ucrania, etc.

Identifying the parts / Identificación de componentes



1 **PROGRAM AE dial** (p. 51)

2 **START/STOP button** (p. 13)

3 **POWER switch** (p. 13)

4 **START/STOP MODE switch** (p. 16)

5 **Power zoom lever** (p. 17)

6 **Grip strap** (p. 19)

7 **LCD BRIGHT buttons** (p. 15)

8 **VOLUME buttons** (p. 21)

9 **Lens**

10 **Camera recording lamp** (p. 13)

11 **Remote sensor** (p. 100)
Aim the Remote Commander here from remote control.

12 **Built-in microphone**

1 **Dial PROGRAM AE** (p. 51)

2 **Botón START/STOP** (p. 13)

3 **Interruptor POWER** (p. 13)

4 **Interruptor START/STOP MODE** (p. 16)

5 **Palanca de alimentación del zoom** (p. 17)

6 **Correa de fijación** (p. 19)

7 **Botones LCD BRIGHT** (p. 15)

8 **Botones VOLUME** (p. 21)

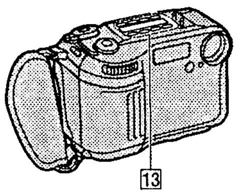
9 **Objetivo**

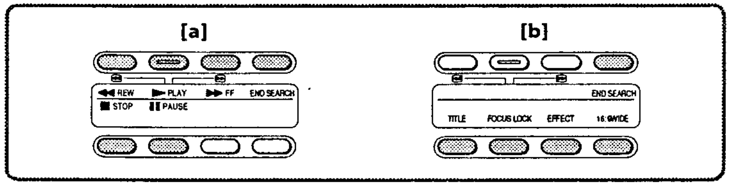
10 **Indicador de grabación con la cámara** (p. 13)

11 **Sensor remoto** (p. 100)
Dirija el mando a distancia a este punto desde el control remoto.

12 **Micrófono incorporado**

Identifying the parts / Identificación de componentes





13 **Display window for operation buttons** (p. 21)

[a] When the POWER switch is set to PLAYER
END SEARCH button (p. 26)
Tape transport buttons (p. 21)
- ■ STOP (stop)
- ◀◀ REW (rewind)
- ▶ PLAY (playback)
- ▶▶ FF (fastforward)
- ❚❚ PAUSE (pause)

[b] When the POWER switch is set to CAMERA
END SEARCH button (p. 26)
TITLE button (p. 44)
FOCUS LOCK button (p. 18)
EFFECT button (p. 39)
16:9WIDE button (p. 41)

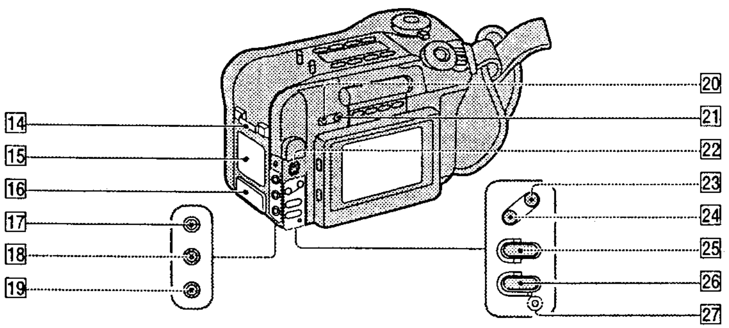
You can use the buttons displayed only. For example, the PAUSE button indication is not displayed during rewinding, so you cannot use it.

13 **Ventana de visualización para los botones de funcionamiento** (p. 21)

[a] Cuando el interruptor POWER está ajustado en PLAYER
Botón END SEARCH (p. 26)
Botones de transporte de cinta (p. 21)
- ■ STOP (parada)
- ◀◀ REW (rebobinado)
- ▶ PLAY (reproducción)
- ▶▶ FF (avance rápido)
- ❚❚ PAUSE (pausa)

[b] Cuando el interruptor POWER está ajustado en CAMERA
Botón END SEARCH (p. 26)
Botón TITLE (p. 44)
Botón FOCUS LOCK (p. 18)
Botón EFFECT (p. 39)
Botón 16:9WIDE (p. 41)

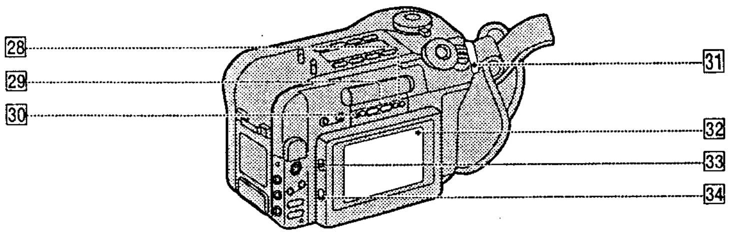
Sólo pueden utilizarse los botones visualizados. Por ejemplo, la indicación del botón PAUSE no aparece durante el rebobinado y, por tanto, no puede utilizarlo.



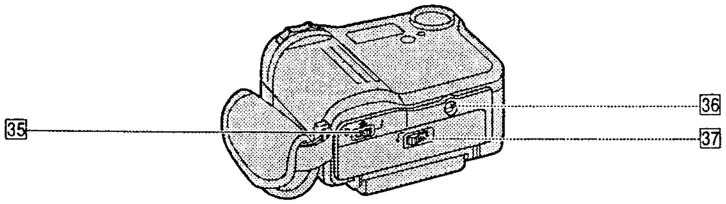
14 Hook for shoulder strap (p. 100)	**14 Gancho para asa de hombro** (p. 100)
15 Speaker	**15 Altavoz**
16 26-pin connector (p. 27)	**16 Conector de 26 pines** (p. 27)
17 VIDEO/AUDIO output jack (p. 55, 67)	**17 Toma de salida VIDEO/AUDIO** (p. 55, 67)
18 ∩ (headphones) jack	**18 ∩ Toma (auriculares)**
19 MIC jack (PLUG IN POWER) Connect an external microphone (not supplied). When you connect an external microphone, you cannot set WIND in the menu system. This jack also accepts a "plug-in-power" microphone.	**19 Toma MIC (PLUG IN POWER)** Conecte un micrófono externo (no suministrado). Cuando se conecta un micrófono externo, no es posible ajustar WIND en el sistema de menús. Esta toma también acepta micrófonos de "enchufe de alimentación".
20 Camera recording lamp (p. 13)	**20 Indicador de grabación con la cámara** (p. 13)
21 CHARGE lamp (p. 28)	**21 Indicador CHARGE** (p. 28)
22 S video jack (p. 55)	**22 Toma de vídeo S** (p. 55)
23 DATE button (p. 24, 36)	**23 Botón DATE** (p. 24, 36)
24 TIME button (p. 24, 36)	**24 Botón TIME** (p. 24, 36)
25 BACK LIGHT button (p. 53)	**25 Botón BACK LIGHT** (p. 53)
26 FADER button (p. 37)	**26 Botón FADER** (p. 37)
27 RESET button	**27 Botón RESET**

Identifying the parts

Identificación de componentes



28 EXECUTE button (p. 30)	**28 Botón EXECUTE** (p. 30)
29 Menu ↓/↑ button (p. 30)	**29 Botón de menú ↓/↑** (p. 30)
30 MENU button (p. 30)	**30 Botón MENU** (p. 30)
31 Hook for shoulder strap (p. 100)	**31 Gancho para asa de hombro** (p. 100)
32 LCD screen	**32 Pantalla LCD**
33 DISPLAY button (p. 22, 65)	**33 Botón DISPLAY** (p. 22, 65)
34 COUNTER RESET button (p. 14)	**34 Botón COUNTER RESET** (p. 14)



35 **OPEN (BATT) release lever** (p. 10)

36 **Tripod receptacle** (p. 20)

37 **OPEN (CASSETTE) lever** (p. 11)

To watch the demonstration

You can watch a brief demonstration of pictures with special effects. If the demonstration appears when you turn on the camcorder for the first time, exit the Demo mode to use your camcorder.

To enter Demo mode

(1) Eject the cassette and set the POWER switch to PLAYER.

(2) While holding down ►, set the POWER switch to CAMERA. The demonstration starts. The demonstration stops when you insert the cassette.

Note that once you enter Demo mode, this mode is retained as long as the vanadium rechargeable battery is in place. Therefore, demonstration starts automatically 10 minutes later every time you set the POWER switch to CAMERA, and after you eject the cassette.

To exit Demo mode

(1) Set the POWER switch to PLAYER.

(2) While holding down ■, set the POWER switch to CAMERA.

35 **Palanca de liberación OPEN (BATT)** (p. 10)

36 **Receptáculo del trípode** (p. 20)

37 **Palanca OPEN (CASSETTE)** (p. 11)

Para ver la demostración

Hay una breve demostración de imágenes con efectos especiales. Si la demostración aparece al encender la videocámara por primera vez, salga del modo de demostración para usar la videocámara.

Para entrar en modo de demostración

(1) Extraiga el videocassette y ajuste el interruptor POWER en PLAYER.

(2) Ajuste el interruptor POWER en CAMERA manteniendo pulsado ►. Empezará la demostración. Esta se detendrá al insertar el videocassette.

Una vez en modo de demostración, este modo se conserva siempre que esté colocada la pila recargable de vanadio. Por lo tanto, la demostración empieza automáticamente 10 minutos después de ajustar el interruptor POWER en CAMERA y después de extraer el videocassette.

Para salir del modo de demostración

(1) Ajuste el interruptor POWER en PLAYER.

(2) Ajuste el interruptor POWER en CAMERA manteniendo pulsado ■.

Identifying the parts

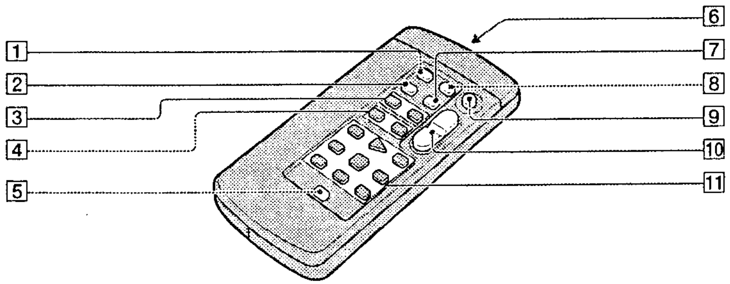
Identificación de componentes

Remote Commander

The buttons that have the same on the Remote Commander as on the camcorder function identically.

Mando a distancia

Los botones que son iguales en el mando a distancia y en la videocámara funcionan de forma idéntica.



1 **COUNTER RESET button** (p. 14)

2 **TIME CODE WRITE button** (p. 65)

3 **INDEX buttons**
INDEX MARK button (p. 60)
INDEX ERASE button (p. 64)

4 **DATE SEARCH button** (p. 57)
INDEX SEARCH button (p. 63)

5 **DISPLAY button** (p. 22, 65)

6 **Transmitter**
Point toward the remote sensor to control the camcorder after turning on the camcorder.

7 **DATA CODE button** (p. 24)

8 **ZERO MEM button** (p. 59)

9 **START/STOP button** (p. 13)

10 **Power zoom button** (p. 17)

11 **Tape transport buttons** (p. 21)

1 **Botón COUNTER RESET** (p. 14)

2 **Botón TIME CODE WRITE** (p. 65)

3 **Botones INDEX**
Botón INDEX MARK (p. 60)
Botón INDEX ERASE (p. 64)

4 **Botón DATE SEARCH** (p. 57)
Botón INDEX SEARCH (p. 63)

5 **Botón DISPLAY** (p. 22, 65)

6 **Transmisor**
Apunte hacia el sensor remoto para controlar la videocámara después de encenderla.

7 **Botón DATA CODE** (p. 24)

8 **Botón ZERO MEM** (p. 59)

9 **Botón START/STOP** (p. 13)

10 **Botón de alimentación del zoom** (p. 17)

11 **Botones de transporte de cinta** (p. 21)

To prepare the Remote Commander

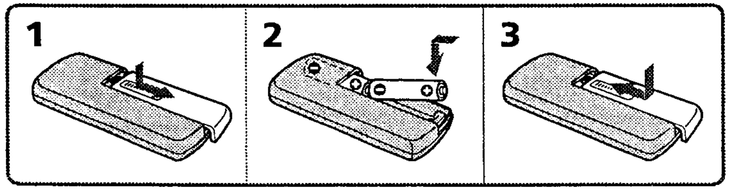
To use the Remote Commander, you must insert two R6 (size AA) batteries. Use the supplied R6 (size AA) batteries.

(1) Remove the battery cover from the Remote Commander.
(2) Insert both of the R6 (size AA) batteries with correct polarity.
(3) Put the battery cover back onto the Remote Commander.

Para preparar el mando a distancia

Para usar el mando a distancia debe insertar 2 pilas de R6 (tamaño AA). Utilice las suministradas.

(1) Retire la cubierta de las pilas del mando a distancia.
(2) Inserte las dos pilas de R6 (tamaño AA) con la polaridad correcta.
(3) Vuelva a colocar la cubierta de las pilas en el mando a distancia.



Note on battery life

The batteries for the Remote Commander last about 6 months under normal operation. When the batteries become weak or dead, the Remote Commander does not work.

To avoid damage from possible battery leakage

Remove the batteries when you will not use the Remote Commander for a long time.

To use the Remote Commander

Make sure that the COMMANDER is set to ON in the menu system on the camcorder.

Nota sobre la duración de las pilas

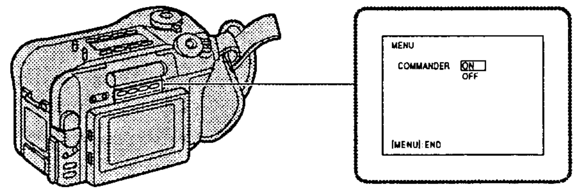
Las pilas del mando a distancia duran aproximadamente 6 meses en funcionamiento normal. Cuando las pilas se debilitan o se agotan, el mando a distancia no funciona.

Para evitar daños de posibles fugas de las pilas

Retire las pilas cuando no vaya a utilizar el mando a distancia durante un largo período.

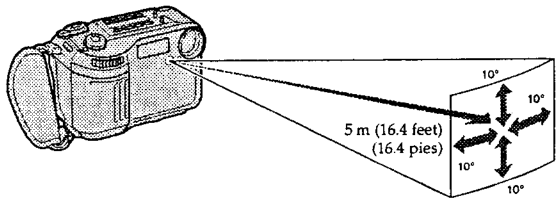
Para usar el mando a distancia

Cerciórese de que COMMANDER está ajustado en ON en el sistema de menús de la videocámara.



Remote control direction

Dirección del control remoto



Notes on the Remote Commander

- Keep the remote sensor away from strong light sources such as direct sunlight or illumination. Otherwise, the remote control may not be effective.
- Be sure that there is no obstacle between the remote sensor on the camcorder and the Remote Commander.
- This camcorder works at commander mode VTR 2. The commander modes (1, 2 and 3) are used to distinguish this camcorder from other Sony VCRs to avoid remote control misoperation. If you use another Sony VCR at commander mode VTR 2, we recommend you change the commander mode or cover the remote sensor of the VCR with black paper.

Notas sobre el mando a distancia

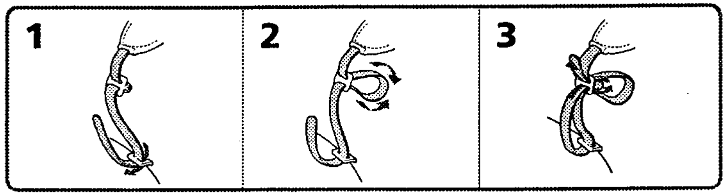
- Mantenga el sensor remoto alejado de fuentes de luz fuerte, como la luz solar directa o puntos de iluminación, pues es posible que no funcione el control remoto.
- Asegúrese de que no hay obstáculos entre el sensor remoto de la videocámara y el mando a distancia.
- Esta videocámara funciona en modo de mando VTR 2. Los modos de mando (1, 2 y 3) se utilizan para distinguir entre esta videocámara y otras videograbadoras Sony para evitar el mal funcionamiento del control remoto. Si utiliza otra videograbadora Sony en modo de mando VTR 2, es recomendable cambiar el modo de mando o cubrir el sensor remoto de la videograbadora con papel negro.

Attaching the shoulder strap

Attach the supplied shoulder strap to the hooks for the shoulder strap (p. 95, 96).

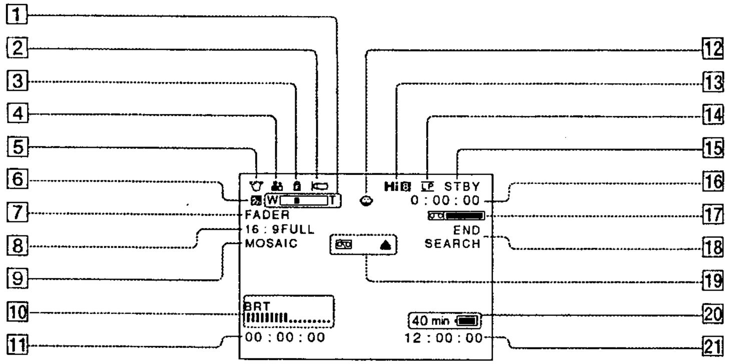
Fijación del asa de hombro

Fije el asa de hombro suministrada a los ganchos para asas de hombro (p. 95, 96).



Operation indicators

Indicadores de funcionamiento



1 **Power zoom indicator** (p. 17)

2 **WIND indicator** (p. 32)

3 **FOCUS LOCK indicator** (p. 18)

4 **PROGRAM AE indicator** (p. 51)

5 **SteadyShot indicator** (p. 49)

6 **BACK LIGHT indicator** (p. 53)

7 **FADER indicator** (p. 37)

8 **16:9WIDE indicator** (p. 41)

9 **Picture Effect indicator** (p. 39)

10 **BRIGHT indicator** (p. 15)/
VOLUME indicator (p. 21)

11 **Data Code indicator** (p. 24)

12 **Mirror mode indicator** (p. 34)

13 **Lights up when playing back or recording in Hi8 format.**

14 **Recording mode indicator** (p. 72)

1 **Indicador de alimentación del zoom** (p. 17)

2 **Indicador WIND** (p. 32)

3 **Indicador FOCUS LOCK** (p. 18)

4 **Indicador PROGRAM AE** (p. 51)

5 **Indicador SteadyShot** (p. 49)

6 **Indicador BACK LIGHT** (p. 53)

7 **Indicador FADER** (p. 37)

8 **Indicador 16:9WIDE** (p. 41)

9 **Indicador de efecto de imagen** (p. 39)

10 **Indicador BRIGHT** (p. 15)/
Indicador VOLUME (p. 21)

11 **Indicador de código de datos** (p. 24)

12 **Indicador de modo espejo** (p. 34)

13 **Se ilumina al reproducir o grabar en el formato Hi8.**

14 **Indicador de modo de grabación** (p. 72)

15 **Recording standby mode/recording mode indicator** (p. 13)/
Tape transport mode indicator

16 **Tape counter** (p. 14)/**RC time code indicator** (p. 65)

17 **Remaining tape indicator**

▭▬▬ → ▭▬ → ▭ → 5min → 0min

18 **END SEARCH indicator** (p. 26)/
INDEX search indicator (p. 63)/
INDEX scan indicator (p. 62)/
INDEX MARK indicator (p. 60)/
TIME CODE WRITE indicator (p. 65)/
ZERO MEM indicator (p. 59)/
Date search indicator (p. 57)/
Date scan indicator (p. 57)

19 **Warning indicator** (p. 103)

20 **Remaining battery indicator** (p. 75)

▬▬▬ → ▬▬ → ▬ → ▭ → ▭

Remaining time in minutes indicator appears only when using the InfoLITHIUM battery pack such as the NP-F530.

21 **Date or time indicator** (p. 36)

15 **Indicador de modo de espera de grabación/ modo de grabación** (p. 13)/
Indicador de modo de transporte de cinta

16 **Contador de cinta** (p. 14)/**Indicador de código de tiempos RC** (p. 65)

17 **Indicador de cinta restante**

▭▬▬ → ▭▬ → ▭ → 5min → 0min

18 **Indicador END SEARCH** (p. 26)/
Indicador de búsqueda INDEX (p. 63)/
Indicador de exploración INDEX (p. 62)/
Indicador INDEX MARK (p. 60)/
Indicador TIME CODE WRITE (p. 65)/
Indicador ZERO MEM (p. 59)/
Indicador de búsqueda de fecha (p. 57)/
Indicador de exploración de fecha (p. 57)

19 **Indicador de aviso** (p. 103)

20 **Indicador de batería restante** (p. 75)

▬▬▬ → ▬▬ → ▬ → ▭ → ▭

El indicador de tiempo restante en minutos aparece sólo cuando se usa el paquete de baterías InfoLITHIUM, como NP-F530.

21 **Indicador de fecha u hora** (p. 36)

Warning indicators

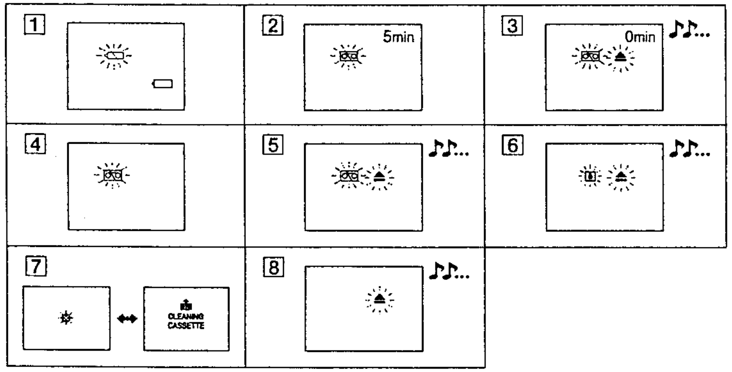
If indicators flash on the LCD screen, check the following:

♪ : you can hear the beep sound when BEEP is set to ON in the menu system.

Indicadores de aviso

Si los indicadores parpadean en la pantalla LCD, compruebe lo siguiente:

♪ : el pitido puede oírse cuando BEEP está ajustado en ON en el sistema de menús.



1 **The battery is weak or dead.**
Slow flashing: The battery is weak.
Fast flashing: The battery is dead.
When you use the NP-F530 battery pack, depending on conditions, the ▭ indicator may flash, even if there are 5 to 10 minutes remaining.

2 **The tape is near the end.**
The flashing is slow.

3 **The tape has run out.**
The flashing becomes rapid.

4 **No tape has been inserted.**

5 **The tab on the tape is out (red).**

6 **Moisture condensation has occurred.** (p. 78)

7 **The video heads may be contaminated.** (p. 79)

8 **Some other trouble has occurred.**
Disconnect the power source and contact your Sony dealer or local authorized facility.

1 **La batería está débil o agotada.**
Parpadeo lento: La batería está débil.
Parpadeo rápido: La batería está agotada.
Cuando se utiliza el paquete de baterías NP-F530, el indicador ▭ puede parpadear, dependiendo de las condiciones, incluso si el tiempo restante es de 5 a 10 minutos.

2 **La cinta se acerca al final.**
El parpadeo es lento.

3 **Se ha terminado la cinta.**
El parpadeo se acelera.

4 **No se ha insertado ninguna cinta.**

5 **La lengüeta de la cinta está fuera (roja).**

6 **Hay condensación de humedad.** (p. 78)

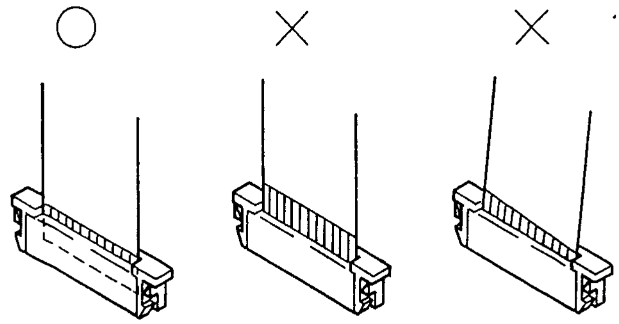
7 **Es posible que los cabezales de vídeo estén contaminados.** (p. 79)

8 **Ha surgido algún otro problema.**
Desconecte la fuente de alimentación y póngase en contacto con el proveedor Sony o un servicio técnico autorizado local.

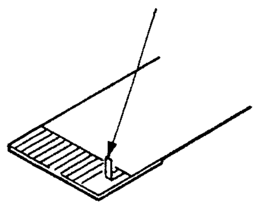
SECTION 2
DISASSEMBLY

- **Note for Repair**

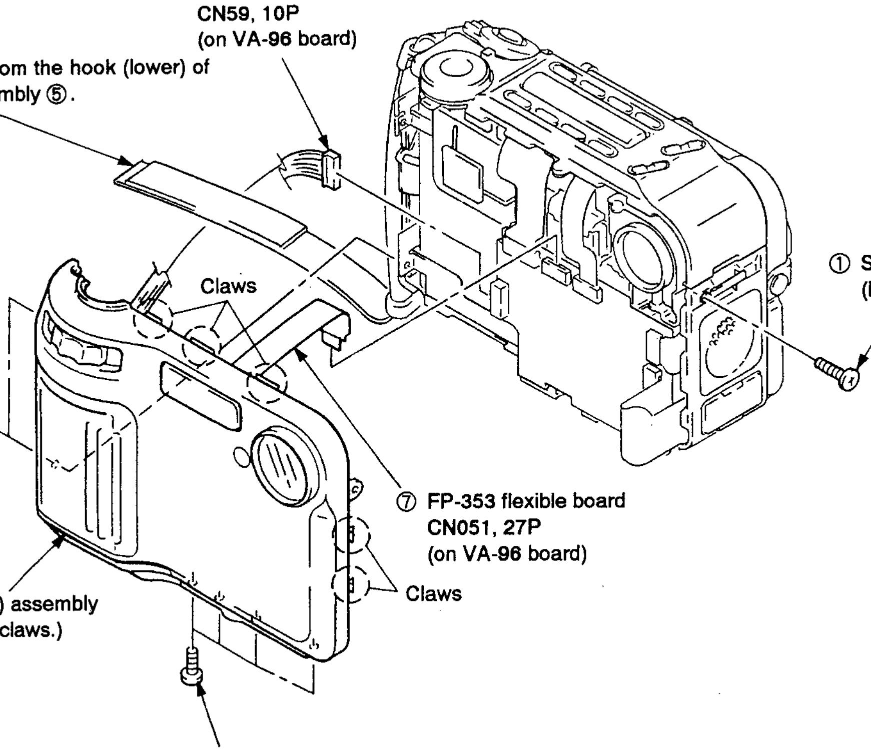
Make sure that the flat cable and flexible board are not cracked or bent at the terminal.
Do not insert the cable insufficiently nor crookedly.



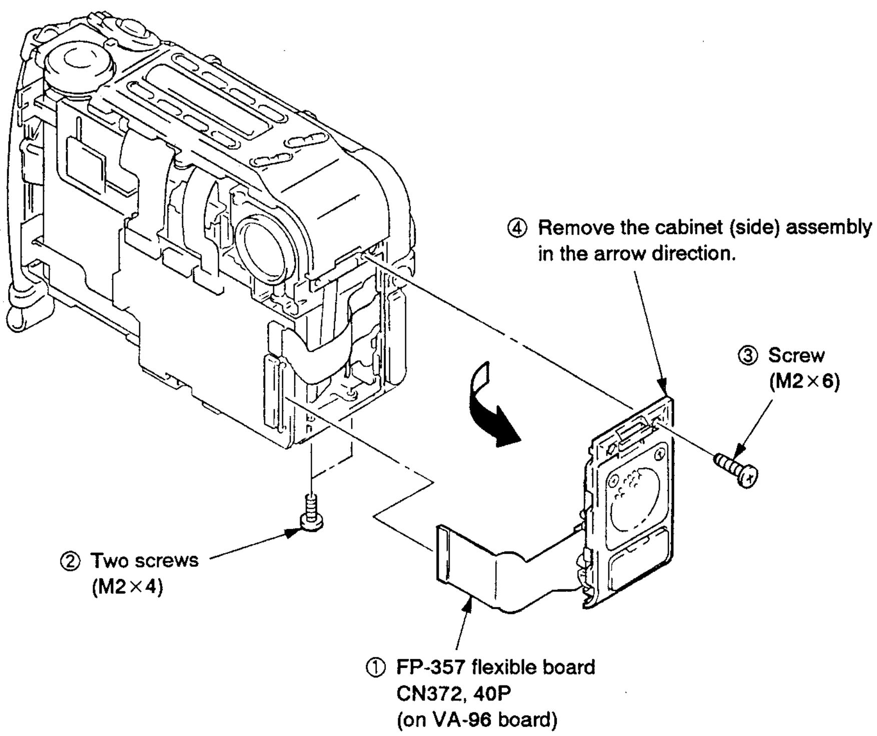
Cut and remove the part of gilt which comes off at the point.
(Take care that there is some pieces of gilt left inside.)



2-1. REMOVAL OF CABINET (FRONT) ASSEMBLY

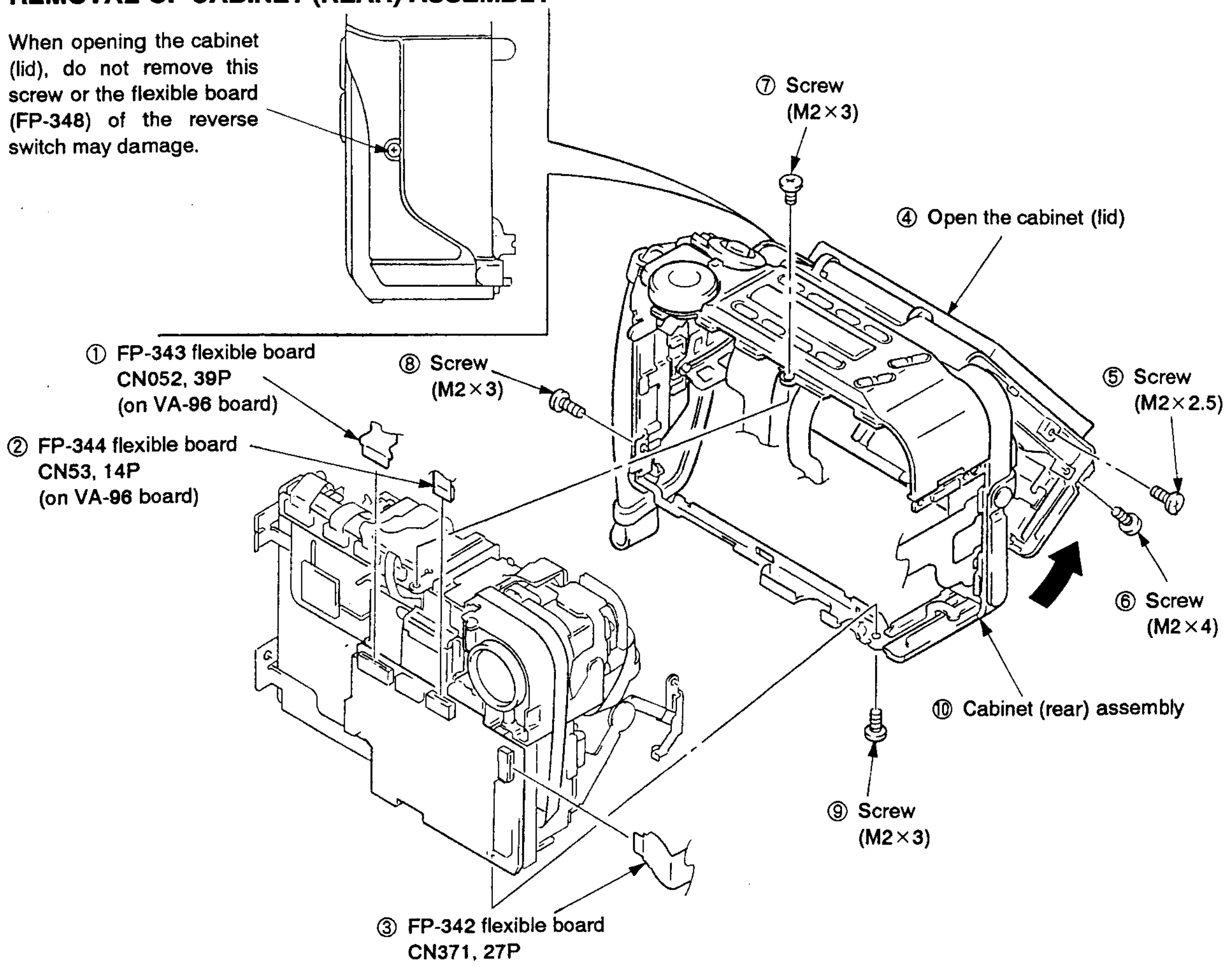

⑥ Connector
CN59, 10P
(on VA-96 board)
③ Remove the grip belt from the hook (lower) of the cabinet (front) assembly ⑤.
Claws
① Screw
(M2×6)
④ Two screws
(M2×4)
⑦ FP-353 flexible board
CN051, 27P
(on VA-96 board)
Claws
⑤ Cabinet (front) assembly
(Remove five claws.)
② Four screws
(M2×4)

2-2. REMOVAL OF CABINET (SIDE) ASSEMBLY

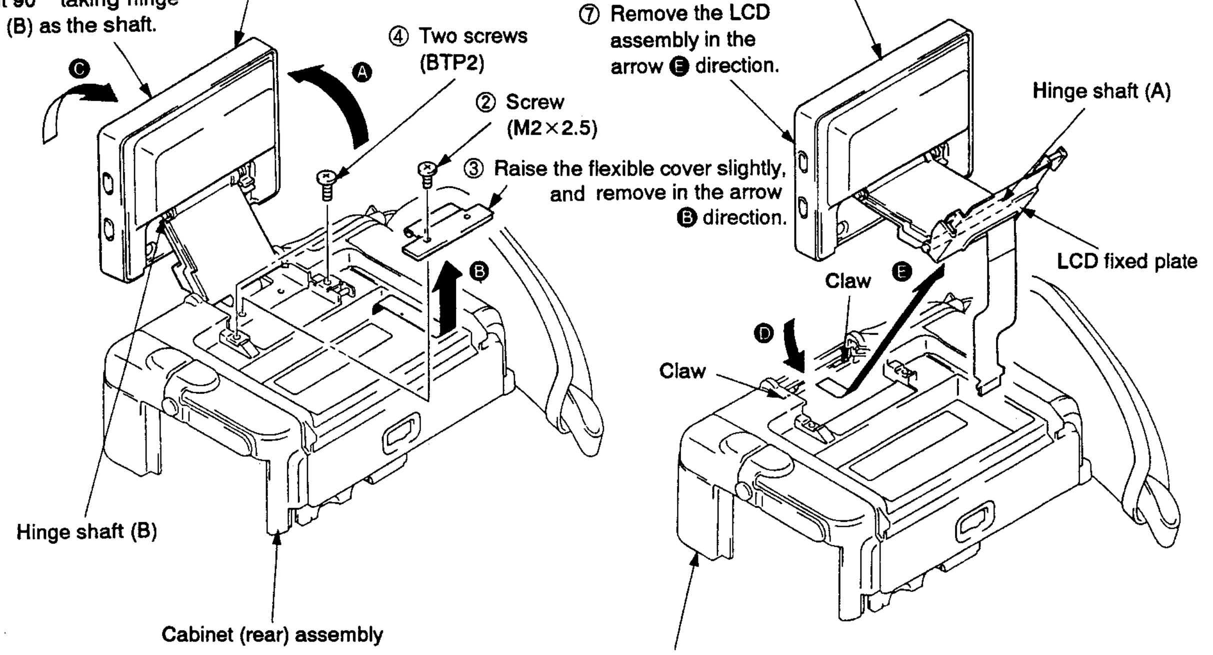

④ Remove the cabinet (side) assembly in the arrow direction.
③ Screw (M2×6)
② Two screws (M2×4)
① FP-357 flexible board CN372, 40P (on VA-96 board)

2-3. REMOVAL OF CABINET (REAR) ASSEMBLY

Note: When opening the cabinet (lid), do not remove this screw or the flexible board (FP-348) of the reverse switch may damage.


⑦ Screw (M2×3)
④ Open the cabinet (lid)
① FP-343 flexible board CN052, 39P (on VA-96 board)
⑧ Screw (M2×3)
⑤ Screw (M2×2.5)
② FP-344 flexible board CN53, 14P (on VA-96 board)
⑥ Screw (M2×4)
⑩ Cabinet (rear) assembly
⑨ Screw (M2×3)
③ FP-342 flexible board CN371, 27P (on VA-96 board)

2-4. REMOVAL OF LCD ASSEMBLY



① Open the LCD assembly in the arrow Ⓐ direction by about 120 °

② Screw (M2×2.5)

③ Raise the flexible cover slightly, and remove in the arrow Ⓑ direction.

④ Two screws (BTP2)

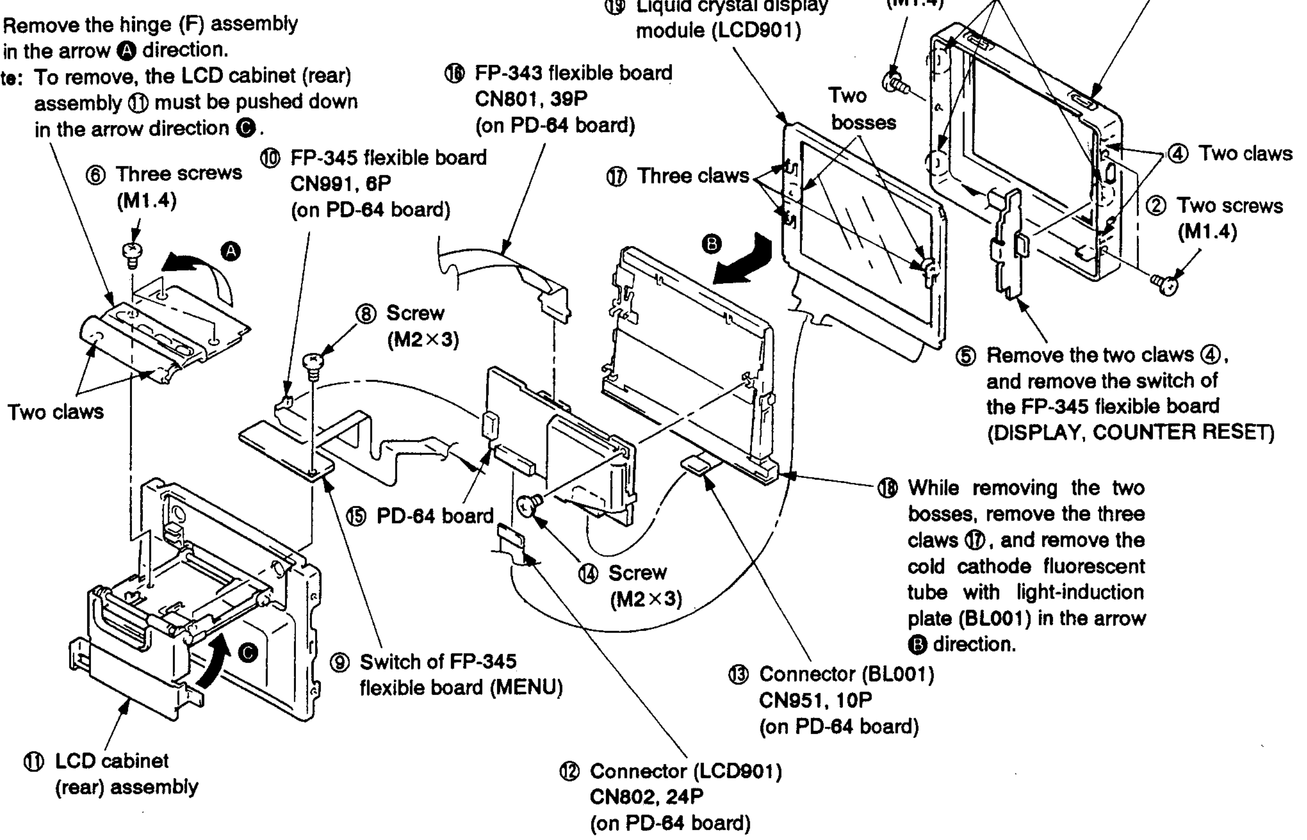
⑤ Open the LCD assembly in the arrow Ⓒ direction by about 90 ° taking hinge shaft (B) as the shaft.

⑥ While pushing up the LCD fixed plate from inside the cabinet (rear) assembly, push in hinge shaft (A) slightly in the arrow Ⓓ direction, and remove the two claws.

Note: When attaching, be sure to hook the LCD fixed plate onto the two claws.

⑦ Remove the LCD assembly in the arrow Ⓔ direction.

2-5. REMOVAL OF PD-64 BOARD AND LIQUID CRYSTAL DISPLAY MODULE



① Screw (M1.4)

② Two screws (M1.4)

③ Remove the three claws, and remove the LCD cabinet (front) assembly.

④ Two claws

⑤ Remove the two claws ④, and remove the switch of the FP-345 flexible board (DISPLAY, COUNTER RESET)

⑥ Three screws (M1.4)

⑦ Remove the hinge (F) assembly in the arrow Ⓐ direction.

Note: To remove, the LCD cabinet (rear) assembly ⑪ must be pushed down in the arrow direction Ⓒ.

⑧ Screw (M2×3)

⑨ Switch of FP-345 flexible board (MENU)

⑩ FP-345 flexible board CN991, 6P (on PD-64 board)

⑪ LCD cabinet (rear) assembly

⑫ Connector (LCD901) CN802, 24P (on PD-64 board)

⑬ Connector (BL001) CN951, 10P (on PD-64 board)

⑭ Screw (M2×3)

⑮ PD-64 board

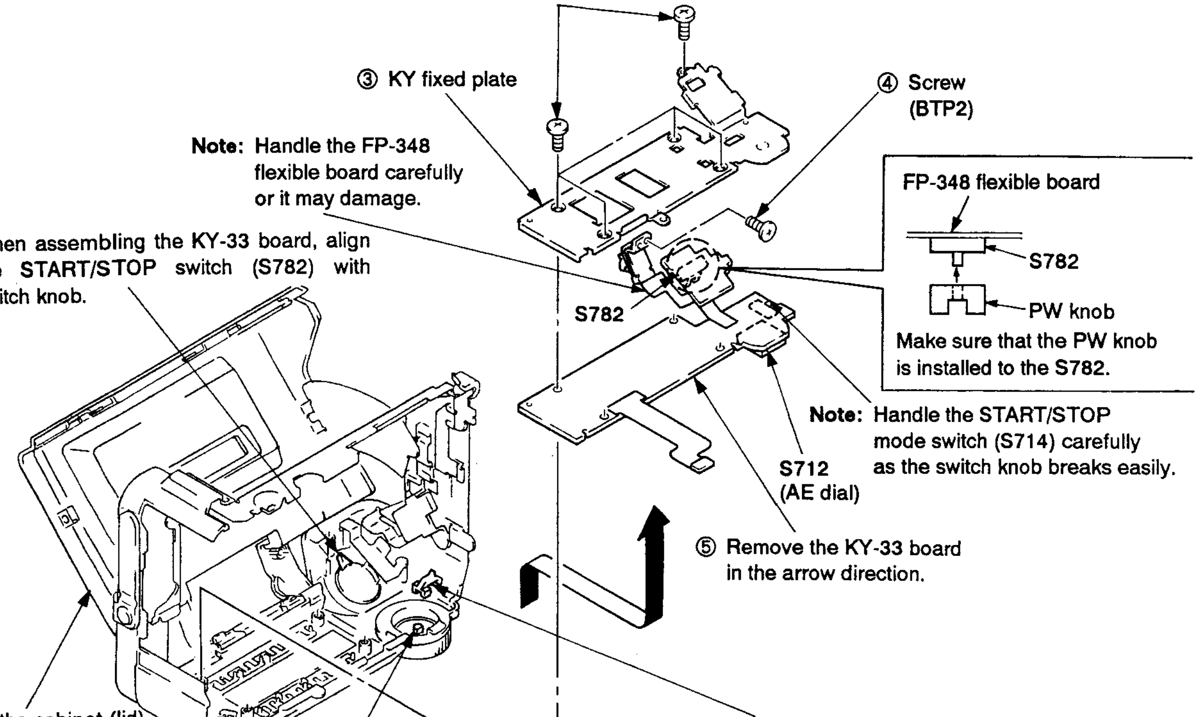
⑯ FP-343 flexible board CN801, 39P (on PD-64 board)

⑰ Three claws

⑱ While removing the two bosses, remove the three claws ⑰, and remove the cold cathode fluorescent tube with light-induction plate (BL001) in the arrow Ⓑ direction.

⑲ Liquid crystal display module (LCD901)

2-6. REMOVAL OF KY-33 BOARD



① Open the cabinet (lid) of the cabinet (rear) assembly.

② Five screws (BTP2)

③ KY fixed plate

④ Screw (BTP2)

⑤ Remove the KY-33 board in the arrow direction.

Make sure that the PW knob is installed to the S782.

Note: Handle the FP-348 flexible board carefully or it may damage.

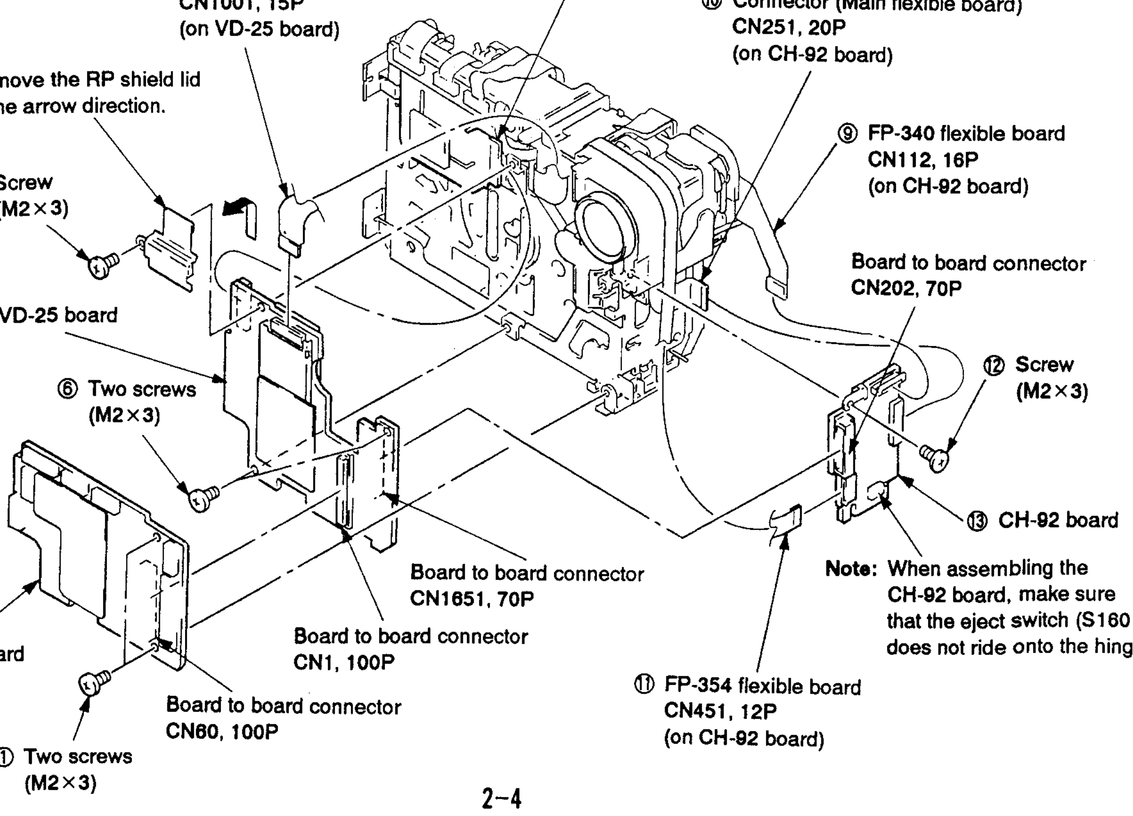
Note: When assembling the KY-33 board, align the START/STOP switch (S782) with switch knob.

Note: Handle the START/STOP mode switch (S714) carefully as the switch knob breaks easily.

Note: When assembling the KY-33 board, align the AE dial with the S712 hole.

Note: When assembling the KY-33 board, check that the switch knob of the START/STOP mode switch (S714) is in the groove of the SS knob. (Do not break the switch knob.)

2-7. REMOVAL OF VA-96 BOARD, VD-25 BOARD AND CH-92 BOARD



① Two screws (M2×3)

② VA-96 board

③ Screw (M2×3)

④ Remove the RP shield lid in the arrow direction.

⑤ Connector (Drum) CN1001, 15P (on VD-25 board)

⑥ Two screws (M2×3)

⑦ VD-25 board

⑧ FP-346 flexible board CN3, 51P (on VD-25 board)

⑨ FP-340 flexible board CN112, 16P (on CH-92 board)

⑩ Connector (Main flexible board) CN251, 20P (on CH-92 board)

⑪ FP-354 flexible board CN451, 12P (on CH-92 board)

⑫ Screw (M2×3)

⑬ CH-92 board

Board to board connector CN202, 70P

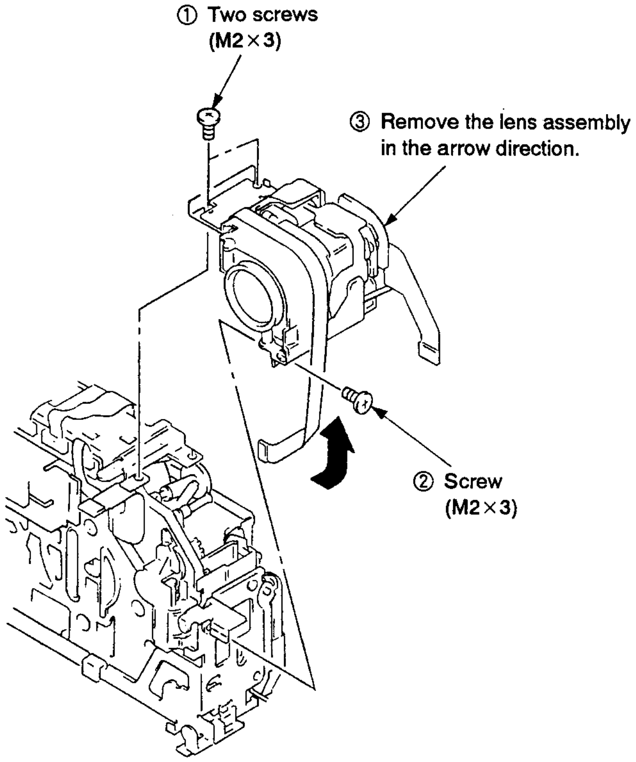
Board to board connector CN1651, 70P

Board to board connector CN1, 100P

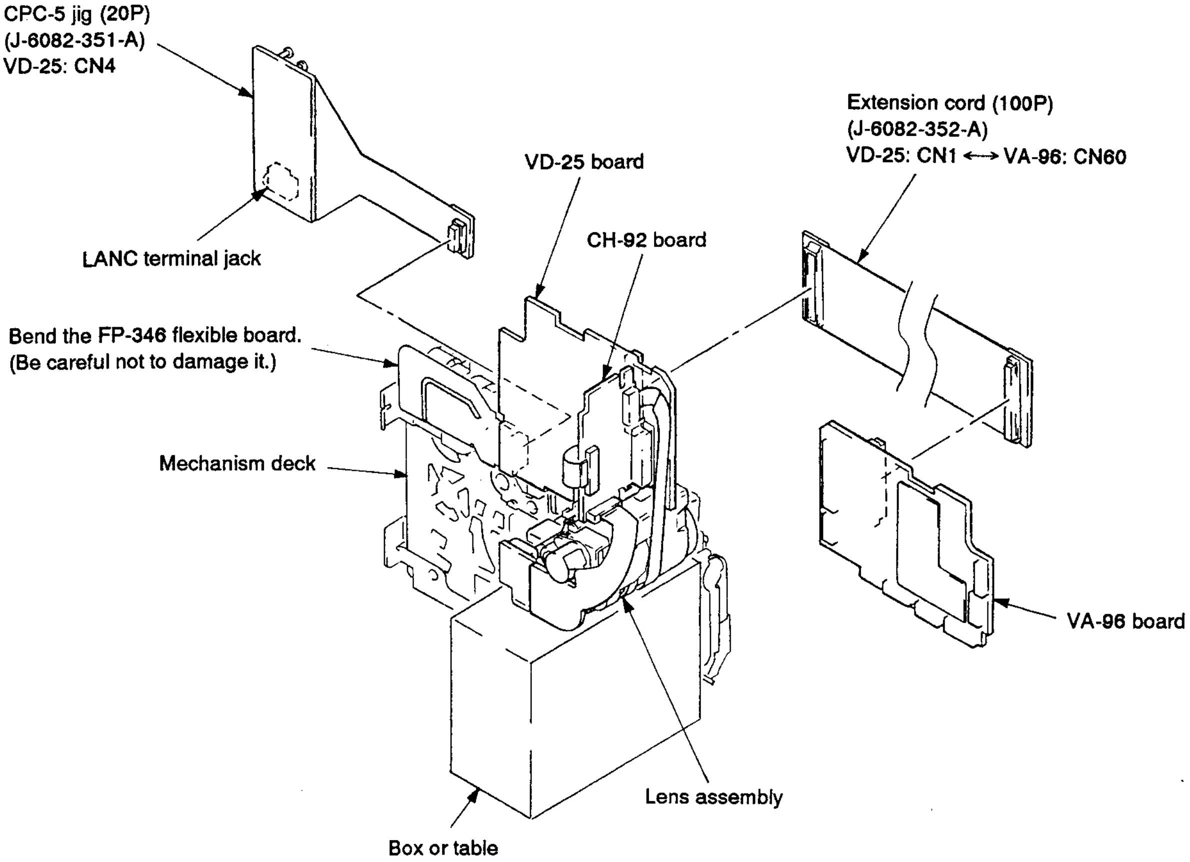
Board to board connector CN60, 100P

Note: When assembling the CH-92 board, make sure that the eject switch (S1601) does not ride onto the hinge.

2-8. REMOVAL OF LENS ASSEMBLY


① Two screws
(M2×3)
③ Remove the lens assembly
in the arrow direction.
② Screw
(M2×3)

2-9. SERVICE POSITIONS OF VA-96 BOARD, VD-25 BOARD AND CH-92 BOARD (Mainly for checking and adjusting the video/audio systems)


CPC-5 jig (20P)
(J-6082-351-A)
VD-25: CN4
Extension cord (100P)
(J-6082-352-A)
VD-25: CN1 ←→ VA-96: CN60
VD-25 board
CH-92 board
LANC terminal jack
Bend the FP-346 flexible board.
(Be careful not to damage it.)
Mechanism deck
VA-96 board
Lens assembly
Box or table

2-10. INTERNAL VIEWS

— T2 mechanism —

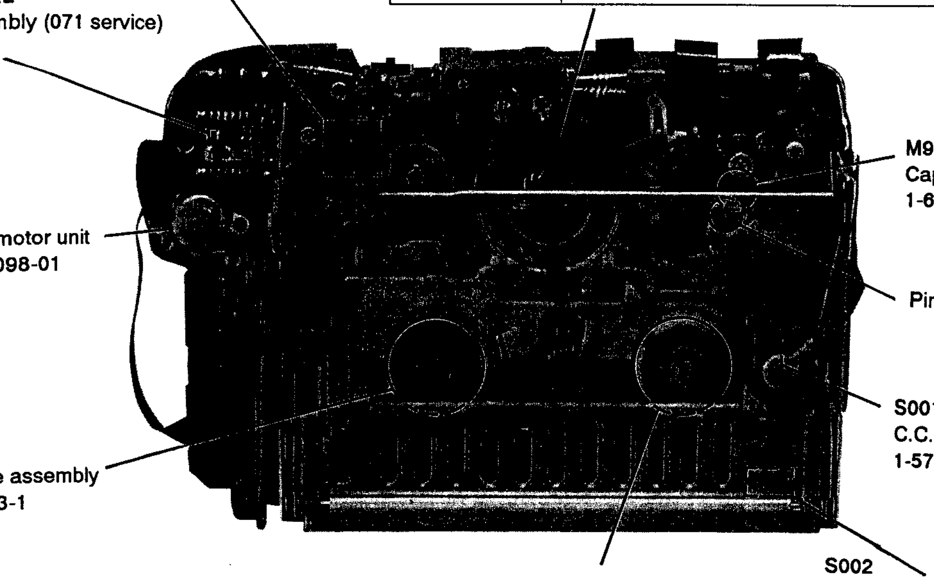
— Rear cabinet side (Mechanism deck top side) —

M901 (SC55) NTSC

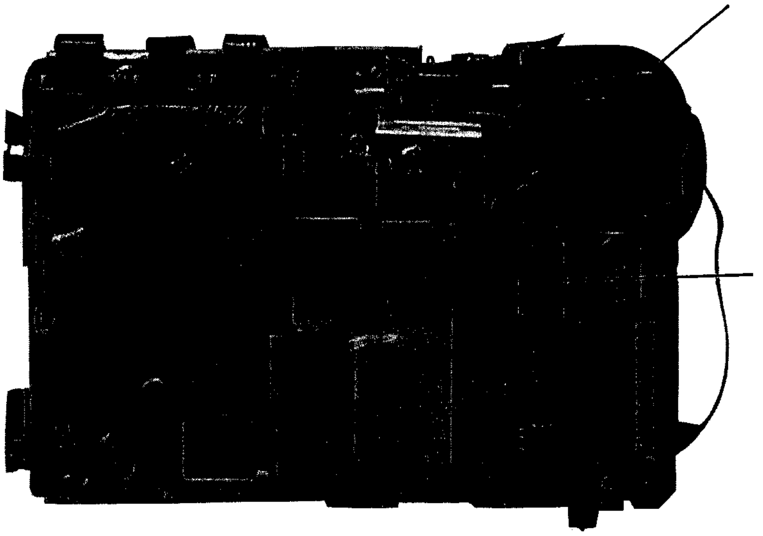
Drum Assembly	A-7048-814-A (DGH-89G-R)
Rotary Uppper Drum Assembly	A-7049-495-A (DGR-89-R-(1)) (Color mark: Green, Green/Red, Black, Black/Red)
	A-7049-498-A (DGR-89-R-(2)) (Color mark: Red, Red/Red, Blue, Blue/Red)

M901 (SC55E) PAL

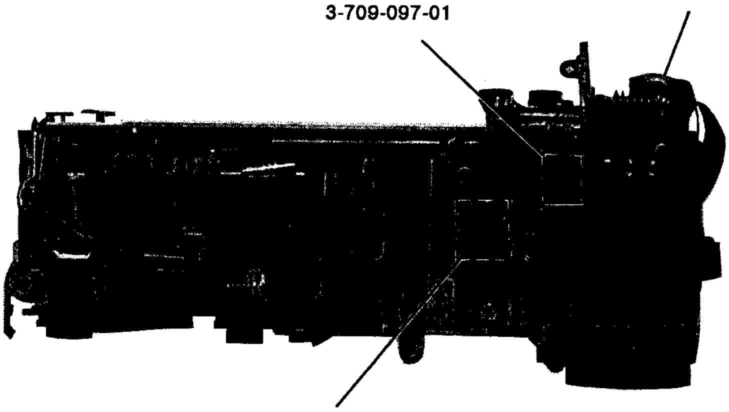
Drum Assembly	A-7048-816-A (DGH-80F-R)
Rotary Uppper Drum Assembly	A-7049-461-A (DGR-80-R-(1)) (Color mark: Green, Green/Red, Black, Black/Red)
	A-7049-464-A (DGR-80-R-(2)) (Color mark: Red, Red/Red, Blue, Blue/Red)


SE792
Angular velocity sensor (YAW)
1-801-216-41
IC351 (SC55) NTSC
CCD imager assembly (079 service)
A-7030-638-A
IC351 (SC55E) PAL
CCD imager assembly (071 service)
A-7030-659-A
M904
Focus motor unit
3-709-098-01
S reel table assembly
X-3943-733-1
T reel table assembly
X-3943-732-1
M902
Capstan motor
1-698-735-12
Pinch roller
S001
C.C. LOCK switch
1-572-288-11
S002
Hi8 MP, Rec Proof, ME/MP switch
1-692-614-11

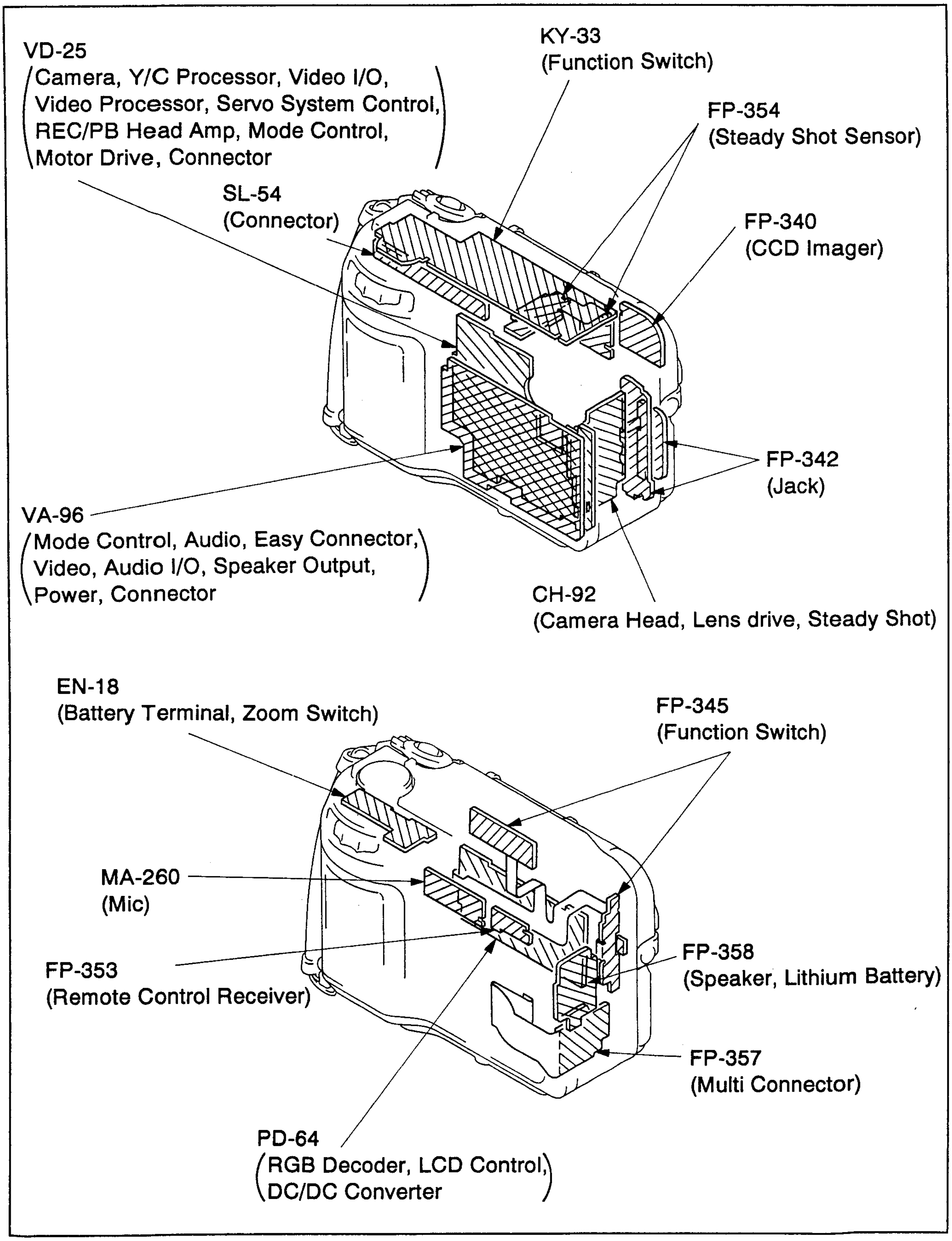
— Front cabinet side (Mechanism deck bottom side) —


Zoom lens (VCL-4210VA)
1-547-931-11
M903
Loading motor assembly
X-3946-019-1

— Top side —

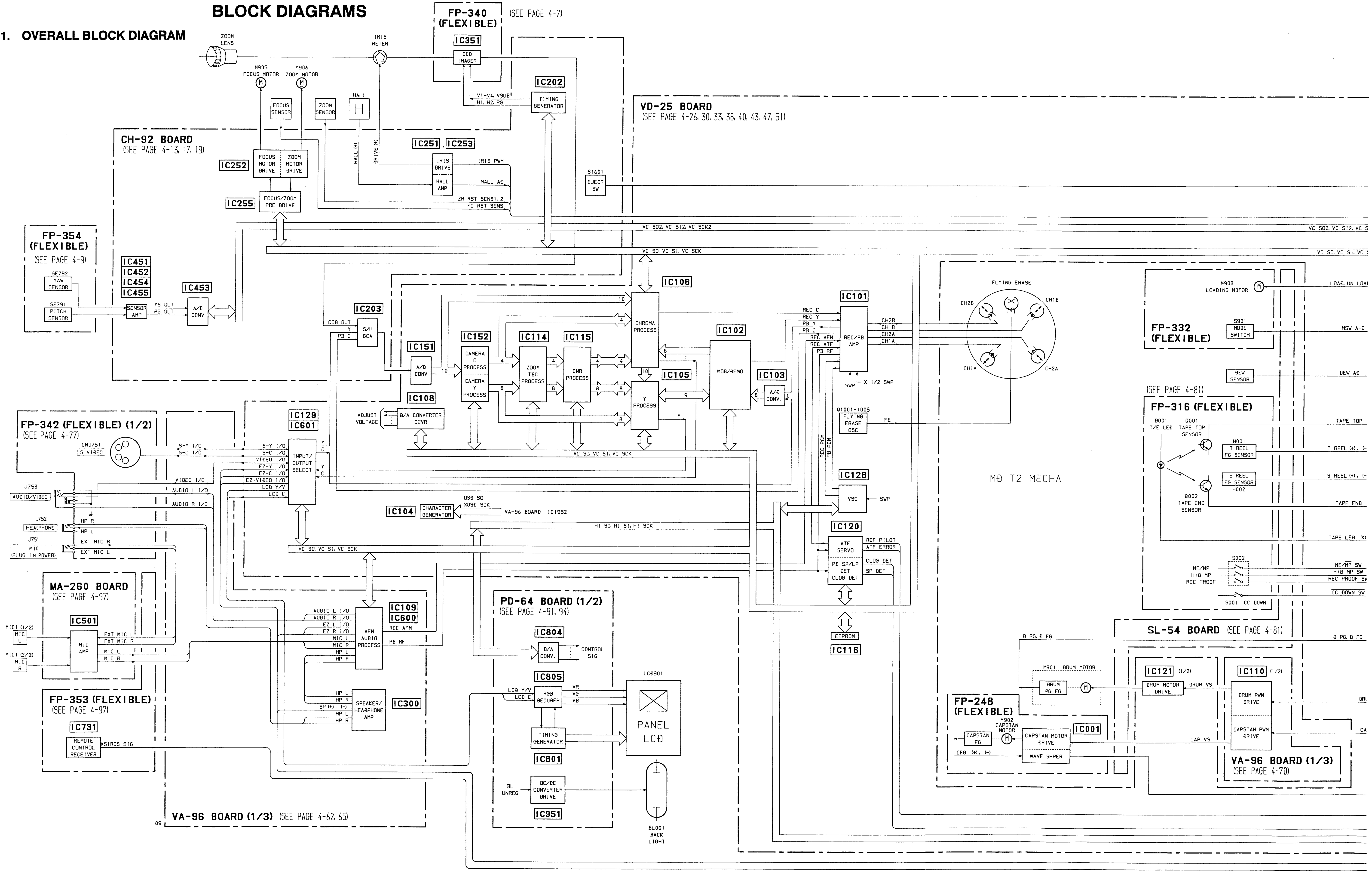

M905
Zoom motor unit
3-709-097-01
M904
Focus motor unit
3-970-749-01
SE791
Angular velocity sensor (PITCH)
1-801-216-31

2-11. CIRCUIT BOARDS LOCATION

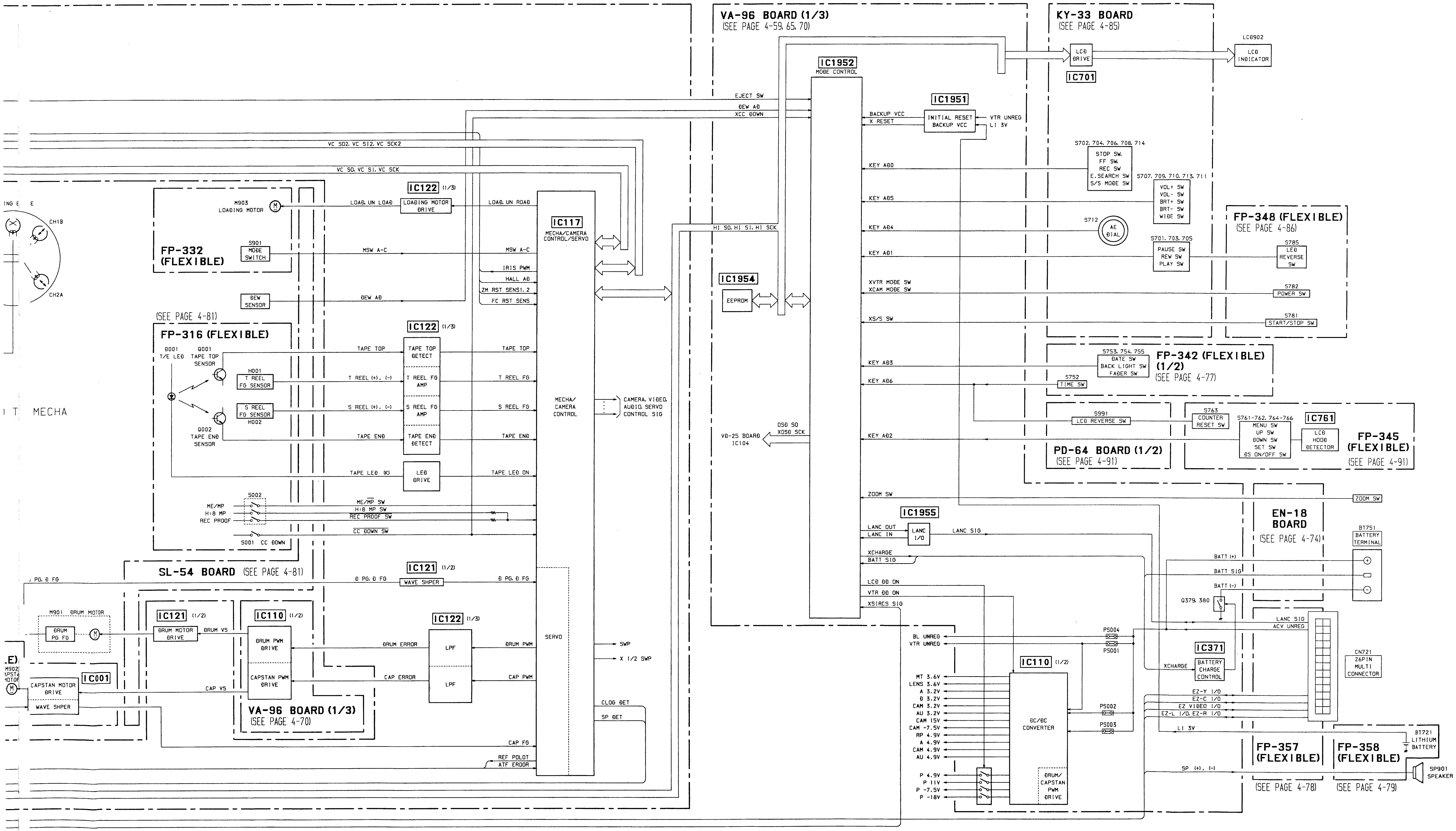

VD-25
(Camera, Y/C Processor, Video I/O, Video Processor, Servo System Control, REC/PB Head Amp, Mode Control, Motor Drive, Connector)
KY-33
(Function Switch)
FP-354
(Steady Shot Sensor)
SL-54
(Connector)
FP-340
(CCD Imager)
FP-342
(Jack)
VA-96
(Mode Control, Audio, Easy Connector, Video, Audio I/O, Speaker Output, Power, Connector)
CH-92
(Camera Head, Lens drive, Steady Shot)
EN-18
(Battery Terminal, Zoom Switch)
FP-345
(Function Switch)
MA-260
(Mic)
FP-353
(Remote Control Receiver)
FP-358
(Speaker, Lithium Battery)
FP-357
(Multi Connector)
PD-64
(RGB Decoder, LCD Control, DC/DC Converter)

SECTION 3
BLOCK DIAGRAMS

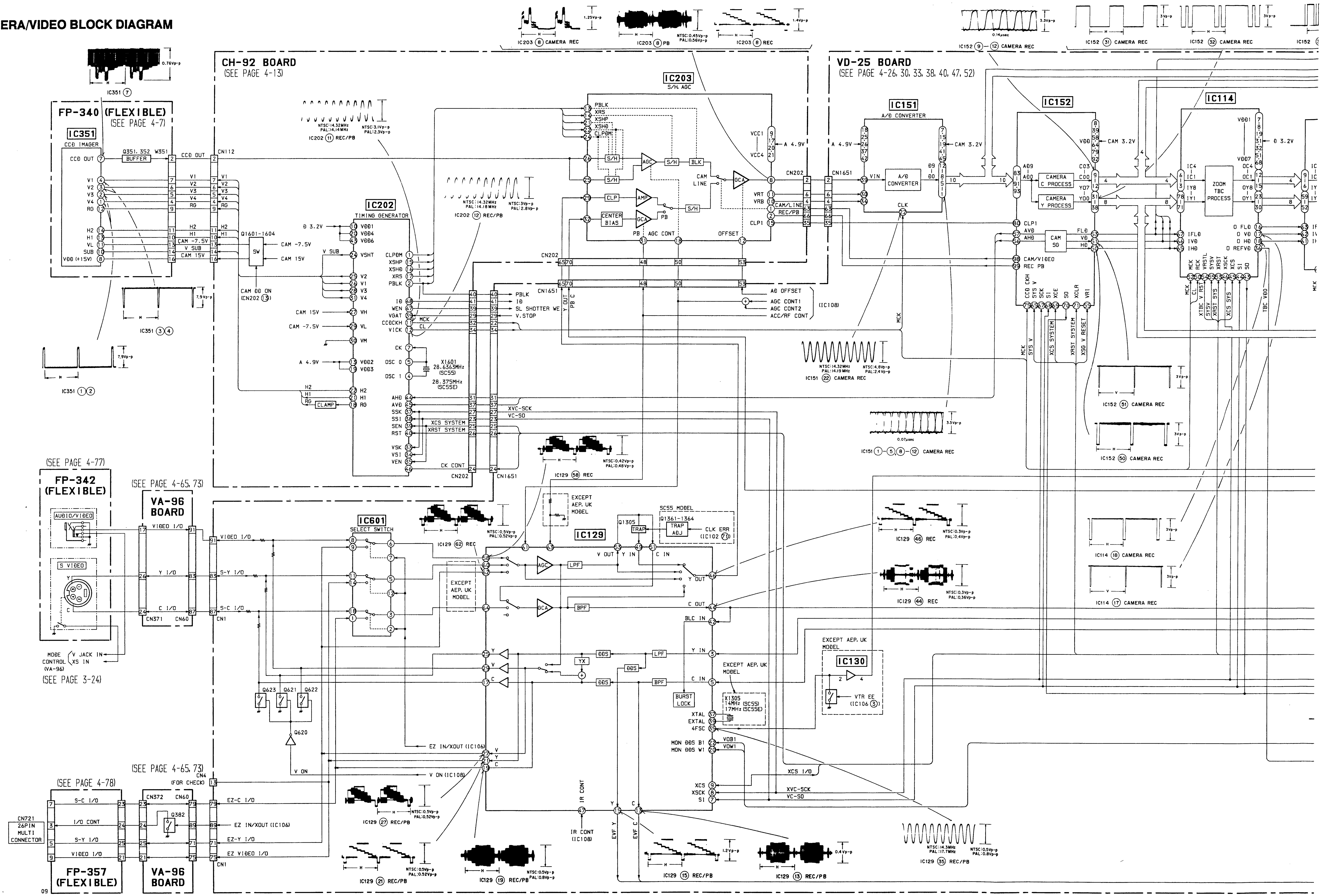
3-1. OVERALL BLOCK DIAGRAM

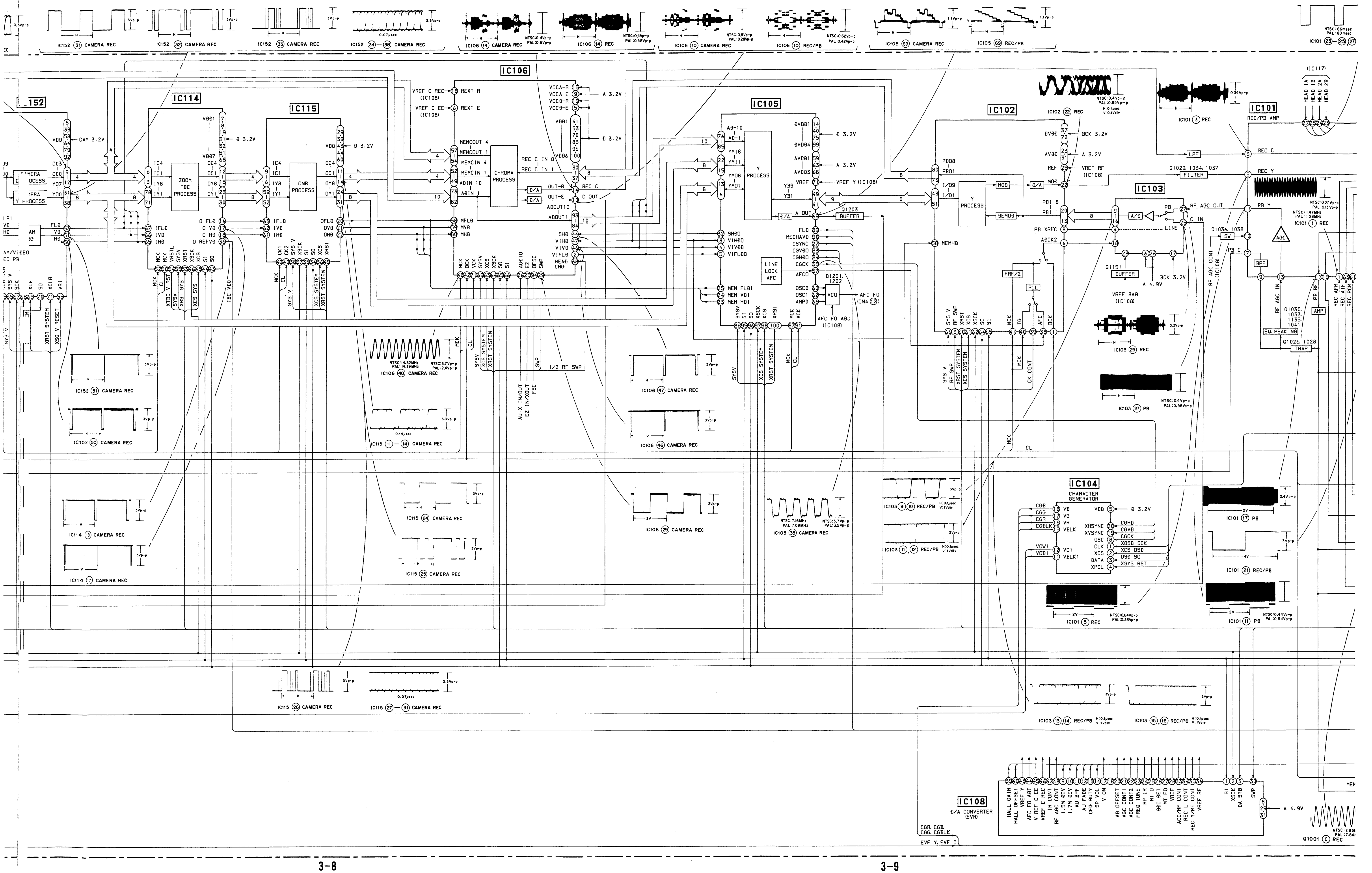


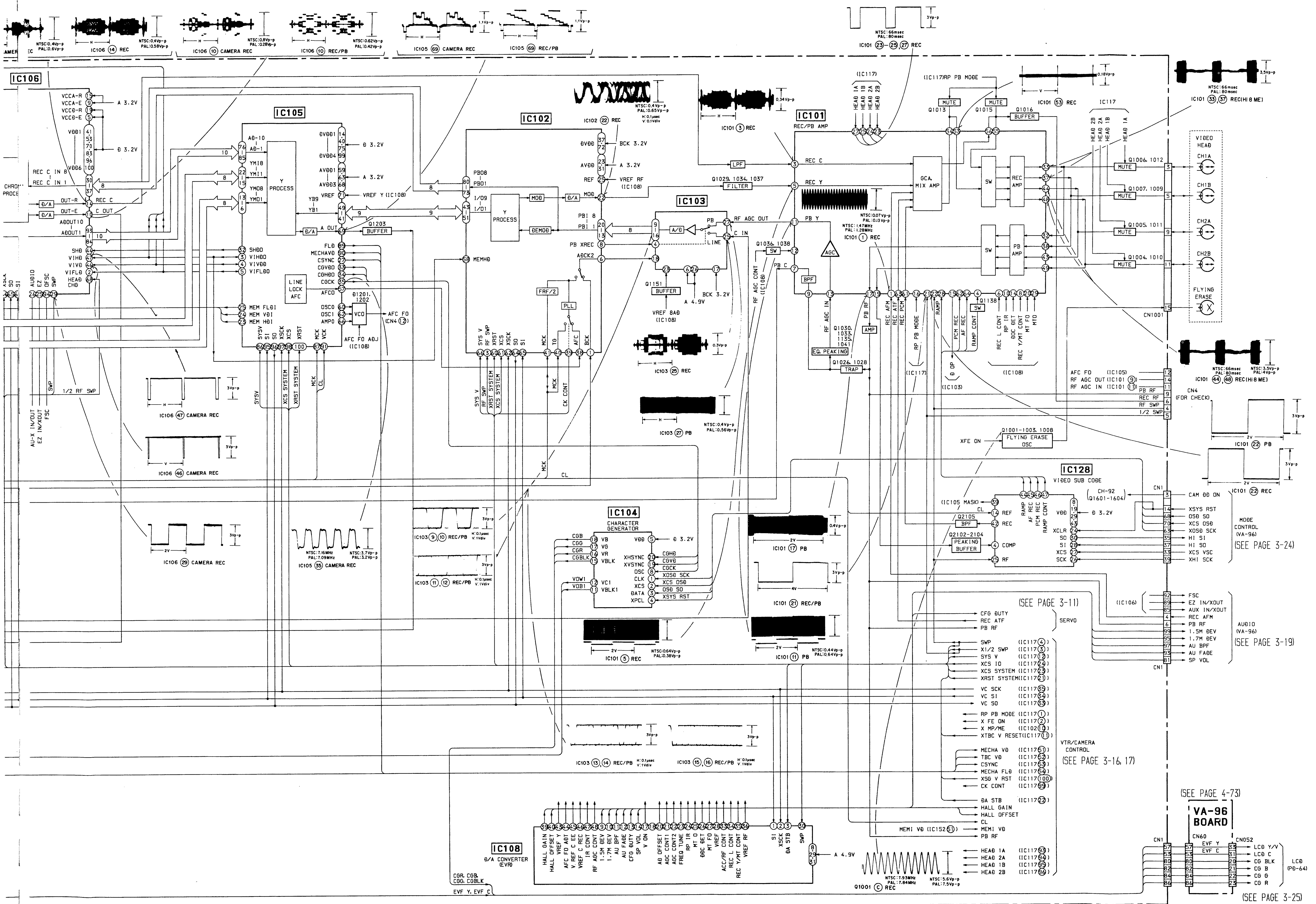
ZOOM LENS
IRIS METER
M905 FOCUS MOTOR
M906 ZOOM MOTOR
FOCUS SENSOR
ZOOM SENSOR
HALL
FP-340 (FLEXIBLE)
(SEE PAGE 4-7)
IC351
CCD IMAGER
V1-V4, VSUB
H1, H2, RG
IC202
TIMING GENERATOR
VD-25 BOARD
(SEE PAGE 4-26, 30, 33, 38, 40, 43, 47, 51)
CH-92 BOARD
(SEE PAGE 4-13, 17, 19)
IC252
FOCUS MOTOR DRIVE
ZOOM MOTOR DRIVE
IC255
FOCUS/ZOOM PRE DRIVE
HALL (+)
DRIVE (+)
IC251, IC253
IRIS DRIVE
HALL AMP
IRIS PWM
HALL AD
ZM RST SENS1, 2
FC RST SENS
S1601
EJECT SW
VC SO2, VC SI2, VC SCK2
VC SO, VC SI, VC SCK
FP-354 (FLEXIBLE)
(SEE PAGE 4-9)
SE792 YAW SENSOR
SE791 PITCH SENSOR
IC451
IC452
IC454
IC455
SENSOR AMP
YS OUT
PS OUT
IC453
A/D CONV
IC203
CCD OUT
S/H GCA
Y
PB C
IC151
A/D CONV
10
IC152
CAMERA C PROCESS
CAMERA Y PROCESS
IC114
ZOOM TBC PROCESS
IC115
CNR PROCESS
4
8
IC106
CHROMA PROCESS
IC105
Y PROCESS
IC102
MOD/DEMO
IC103
A/D CONV.
9
C
IC101
REC/PB AMP
REC C
REC Y
PB Y
PB C
REC AFM
REC ATF
PB RF
CH2B
CH1B
CH2A
CH1A
SWP
X 1/2 SWP
FLYING ERASE
Q1001-1005
FLYING ERASE OSC
FE
MD T2 MECHA
IC108
ADJUST VOLTAGE
D/A CONVERTER CEVR
IC129
IC601
INPUT/OUTPUT SELECT
FP-342 (FLEXIBLE) (1/2)
(SEE PAGE 4-77)
CNJ751 S VIDEO
S-Y I/O
S-C I/O
VIDEO I/O
EZ-Y I/O
EZ-C I/O
EZ-VIDEO I/O
LCD Y/V
LCD C
AUDIO L I/O
AUDIO R I/O
J753 AUDIO/VIDEO
J752 HEADPHONE
HP R
HP L
J751 MIC (PLUG IN POWER)
EXT MIC R
EXT MIC L
IC104
CHARACTER GENERATOR
OSD SO
XOSD SCK
VA-96 BOARD IC1952
HI SO, HI SI, HI SCK
PB PCM
REC PCM
IC128
VSC
IC120
ATF SERVO
PB SP/LP DET
CLOG DET
REF PILOT
ATF ERROR
CLOG DET
SP DET
EEPROM
IC116
MA-260 BOARD
(SEE PAGE 4-97)
IC501
MIC AMP
MIC1 (1/2) MIC L
MIC1 (2/2) MIC R
EXT MIC L
EXT MIC R
MIC L
MIC R
IC109
IC600
AFM AUDIO PROCESS
AUDIO L I/O
AUDIO R I/O
EZ L I/O
EZ R I/O
REC AFM
PB RF
IC300
SPEAKER/HEADPHONE AMP
SP (+), (-)
FP-353 (FLEXIBLE)
(SEE PAGE 4-97)
IC731
REMOTE CONTROL RECEIVER
XSIRCS SIG
VA-96 BOARD (1/3) (SEE PAGE 4-62, 65)
09
PD-64 BOARD (1/2)
(SEE PAGE 4-91, 94)
IC804
D/A CONV.
CONTROL SIG
IC805
RGB DECODER
VR
VG
VB
TIMING GENERATOR
IC801
LCD901
PANEL LCD
BL UNREG
DC/DC CONVERTER DRIVE
IC951
BL001 BACK LIGHT
FP-332 (FLEXIBLE)
M903 LOADING MOTOR
S901 MODE SWITCH
DEW SENSOR
LOAD, UN LOA
MSW A-C
DEW AD
(SEE PAGE 4-81)
FP-316 (FLEXIBLE)
D001 T/E LED
Q001 TAPE TOP SENSOR
H001 T REEL FG SENSOR
S REEL FG SENSOR H002
Q002 TAPE END SENSOR
TAPE TOP
T REEL (+), (-
S REEL (+), (-
TAPE END
TAPE LED (K)
S002
ME/MP
Hi8 MP
REC PROOF
S001 CC DOWN
ME/MP SW
Hi8 MP SW
REC PROOF SW
CC DOWN SW
SL-54 BOARD (SEE PAGE 4-81)
D PG, D FG
M901 DRUM MOTOR
DRUM PG FG
IC121 (1/2)
DRUM MOTOR DRIVE
DRUM VS
IC110 (1/2)
DRUM PWM DRIVE
CAPSTAN PWM DRIVE
CAP VS
FP-248 (FLEXIBLE)
M902 CAPSTAN MOTOR
CAPSTAN FG
CFG (+), (-)
IC001
CAPSTAN MOTOR DRIVE
WAVE SHPER
VA-96 BOARD (1/3)
(SEE PAGE 4-70)


VA-96 BOARD (1/3)
(SEE PAGE 4-59, 65, 70)
KY-33 BOARD
(SEE PAGE 4-85)
LCD902
LCD INDICATOR
LCD DRIVE
IC701
IC1952
MODE CONTROL
IC1951
INITIAL RESET
BACKUP VCC
VTR UNREG
LI 3V
BACKUP VCC
X RESET
EJECT SW
DEW AD
XCC DOWN
VC SO2, VC SI2, VC SCK2
VC SO, VC SI, VC SCK
HI SO, HI SI, HI SCK
KEY AD0
KEY AD5
KEY AD4
KEY AD1
XVTR MODE SW
XCAM MODE SW
XS/S SW
KEY AD3
KEY AD6
KEY AD2
ZOOM SW
S702, 704, 706, 708, 714
STOP SW
FF SW
REC SW
E.SEARCH SW
S/S MODE SW
S707, 709, 710, 713, 711
VOL+ SW
VOL- SW
BRT+ SW
BRT- SW
WIDE SW
S712
AE DIAL
S701, 703, 705
PAUSE SW
REW SW
PLAY SW
FP-348 (FLEXIBLE)
(SEE PAGE 4-86)
S785
LED REVERSE SW
S782
POWER SW
S781
START/STOP SW
S753, 754, 755
DATE SW
BACK LIGHT SW
FADER SW
FP-342 (FLEXIBLE) (1/2)
(SEE PAGE 4-77)
S752
TIME SW
S991
LCD REVERSE SW
S763
COUNTER RESET SW
S761-762, 764-766
MENU SW
UP SW
DOWN SW
SET SW
DS ON/OFF SW
IC761
LCD HOOD DETECTOR
FP-345 (FLEXIBLE)
(SEE PAGE 4-91)
PD-64 BOARD (1/2)
(SEE PAGE 4-91)
IC1954
EEPROM
OSD SO
XOSD SCK
VD-25 BOARD
IC104
IC1955
LANC I/O
LANC OUT
LANC IN
LANC SIG
XCHARGE
BATT SIG
LCD DD ON
VTR DD ON
XSIRCS SIG
EN-18 BOARD
(SEE PAGE 4-74)
ZOOM SW
BT751
BATTERY TERMINAL
BATT (+)
BATT SIG
BATT (-)
Q379, 380
LANC SIG
ACV UNREG
IC371
BATTERY CHARGE CONTROL
XCHARGE
CN721
26PIN MULTI CONNECTOR
EZ-Y I/O
EZ-C I/O
EZ VIDEO I/O
EZ-L I/O, EZ-R I/O
LI 3V
BT721
LITHIUM BATTERY
FP-357 (FLEXIBLE)
(SEE PAGE 4-78)
FP-358 (FLEXIBLE)
(SEE PAGE 4-79)
SP (+), (-)
SP901
SPEAKER
BL UNREG
VTR UNREG
PS004
PS001
PS002
PS003
IC110 (1/2)
DC/DC CONVERTER
DRUM/CAPSTAN PWM DRIVE
MT 3.6V
LENS 3.6V
A 3.2V
D 3.2V
CAM 3.2V
AU 3.2V
CAM 15V
CAM -7.5V
RP 4.9V
A 4.9V
CAM 4.9V
AU 4.9V
P 4.9V
P 11V
P -7.5V
P -18V
IC122 (1/3)
LOADING MOTOR DRIVE
LOAD, UN LOAD
LOAD, UN ROAD
M903
LOADING MOTOR
FP-332 (FLEXIBLE)
S901
MODE SWITCH
MSW A-C
IRIS PWM
HALL AD
ZM RST SENS1, 2
FC RST SENS
DEW SENSOR
DEW AD
IC117
MECHA/CAMERA CONTROL/SERVO
MECHA/CAMERA CONTROL
CAMERA, VIDEO, AUDIO, SERVO CONTROL SIG
(SEE PAGE 4-81)
FP-316 (FLEXIBLE)
D001
T/E LED
Q001
TAPE TOP SENSOR
H001
T REEL FG SENSOR
S REEL FG SENSOR
H002
Q002
TAPE END SENSOR
TAPE TOP
T REEL (+), (-)
S REEL (+), (-)
TAPE END
TAPE LED (K)
TAPE TOP DETECT
T REEL FG AMP
S REEL FG AMP
TAPE END DETECT
LED DRIVE
T REEL FG
S REEL FG
TAPE LED ON
S002
ME/MP
HI8 MP
REC PROOF
S001 CC DOWN
ME/MP SW
HI8 MP SW
REC PROOF SW
CC DOWN SW
SL-54 BOARD (SEE PAGE 4-81)
IC121 (1/2)
WAVE SHPER
D PG, D FG
M901 DRUM MOTOR
DRUM PG FG
DRUM MOTOR DRIVE
DRUM VS
IC110 (1/2)
DRUM PWM DRIVE
CAPSTAN PWM DRIVE
VA-96 BOARD (1/3)
(SEE PAGE 4-70)
IC122 (1/3)
LPF
DRUM ERROR
CAP ERROR
DRUM PWM
CAP PWM
SERVO
SWP
X 1/2 SWP
CLOG DET
SP DET
CAP FG
REF POLOT
ATF EROOR
IC001
CAPSTAN MOTOR DRIVE
WAVE SHPER
CAP VS
M902
CH1B
CH2A
MECHA

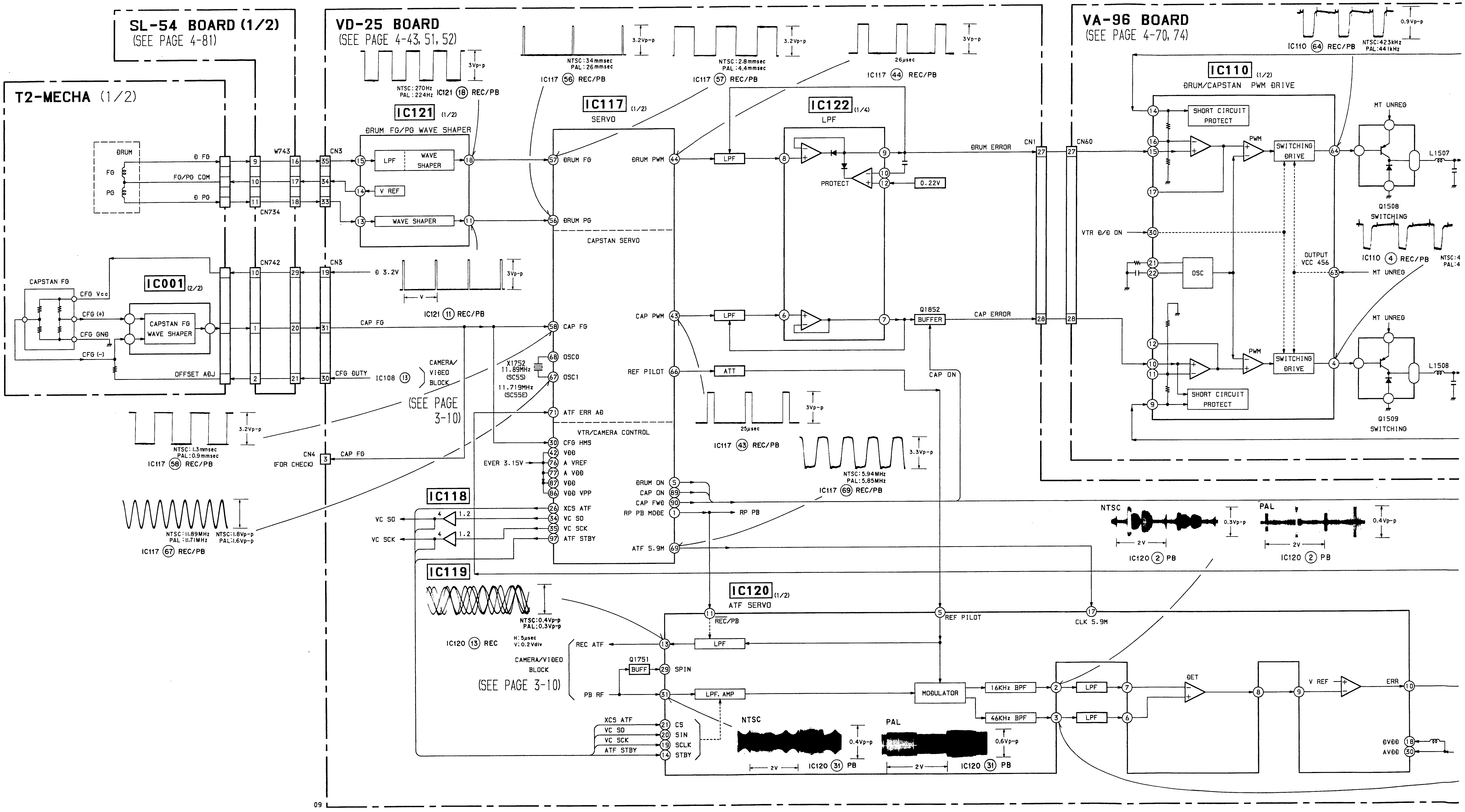
3-2. CAMERA/VIDEO BLOCK DIAGRAM


FP-340 (FLEXIBLE)
(SEE PAGE 4-7)
IC351
CCD IMAGER
Q351, 352 W351
BUFFER
CCD OUT
V1
V2
V3
V4
RG
H2
H1
VL
SUB
VDD (+15V)
CAM -7.5V
V SUB
CAM 15V
IC351 ⑦
IC351 ③④
IC351 ①②
CH-92 BOARD
(SEE PAGE 4-13)
CN112
Q1601-1604
SW
CAM DD ON (CN202 ⑬)
IC202
TIMING GENERATOR
IC202 ⑪ REC/PB
IC202 ⑫ REC/PB
X1601 28.6363MHz (SC55) 28.375MHz (SC55E)
CLAMP
IC203
S/H, AGC
PBLK
XRS
XSHP
XSHD
CLPDM
S/H
AGC
BLK
CLP
AMP
CENTER BIAS
GCA
CAM LINE
VCC1
VCC4
A 4.9V
VRT
VRB
CAM/LINE
REC/PB
CLP1
PB
AGC CONT
OFFSET
CN202
CN1651
AD OFFSET
AGC CONT1
AGC CONT2
ACC/RF CONT
(IC108)
IC203 ⑧ CAMERA REC
IC203 ⑧ PB
IC203 ⑧ REC
VD-25 BOARD
(SEE PAGE 4-26, 30, 33, 38, 40, 47, 52)
IC151
A/D CONVERTER
CAM 3.2V
IC152
CAMERA C PROCESS
CAMERA Y PROCESS
CAM SG
IC114
ZOOM TBC PROCESS
IC151 ㉒ CAMERA REC
IC151 ①-⑤,⑧-⑫ CAMERA REC
IC152 ⑨-⑫ CAMERA REC
IC152 ㉛ CAMERA REC
IC152 ㉜ CAMERA REC
IC152 (51) CAMERA REC
IC152 (50) CAMERA REC
IC114 ⑱ CAMERA REC
IC114 ⑰ CAMERA REC
(SEE PAGE 4-77)
FP-342 (FLEXIBLE)
AUDIO/VIDEO
S VIDEO
(SEE PAGE 4-65, 73)
VA-96 BOARD
VIDEO I/O
Y I/O
C I/O
CN371 CN60
CN1
MODE CONTROL (VA-96)
V JACK IN
XS IN
(SEE PAGE 3-24)
IC601
SELECT SWITCH
EXCEPT AEP, UK MODEL
Q623 Q621 Q622
Q620
EZ IN/XOUT (IC106)
V ON
V ON (IC108)
IC129
IC129 (58) REC
IC129 (62) REC
SC55 MODEL
Q1305
TRAP
Q1361-1364
TRAP ADJ
CLK ERR (IC102 ㉑)
V OUT
Y IN
C IN
AGC
LPF
GCA
BPF
Y OUT
C OUT
BLC IN
DDS
YX
BURST LOCK
X1305 14MHz (SC55) 17MHz (SC55E)
XTAL
EXTAL
4FSC
MON DDS B1
MON DDS W1
XCS I/O
XCS
XSCK
SI
XVC-SCK
VC-SO
IR CONT
IR CONT (IC108)
EVF Y
EVF C
IC129 (46) REC
IC129 (44) REC
IC129 ㉟ REC/PB
IC129 ㉗ REC/PB
IC129 ㉑ REC/PB
IC129 ⑲ REC/PB
IC129 ⑮ REC/PB
IC129 ⑬ REC/PB
EXCEPT AEP, UK MODEL
IC130
VTR EE (IC106 ③)
(SEE PAGE 4-78)
FP-357 (FLEXIBLE)
CN721 26PIN MULTI CONNECTOR
S-C I/O
I/O CONT
S-Y I/O
VIDEO I/O
CN372 CN60
Q382
CN4 (FOR CHECK)
EZ-C I/O
EZ IN/XOUT (IC106)
EZ-Y I/O
EZ VIDEO I/O
09

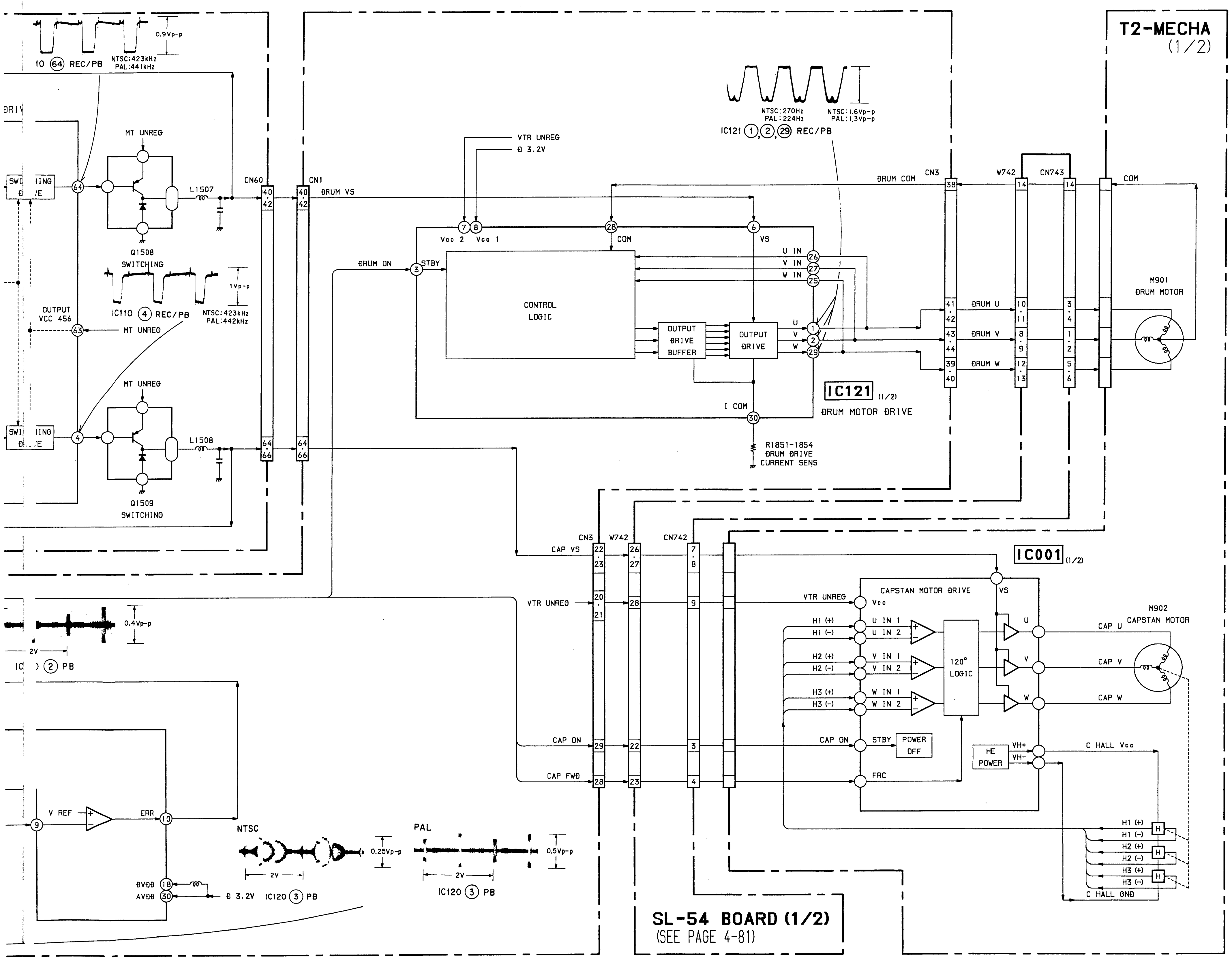

IC152
IC114
ZOOM TBC PROCESS
IC115
CNR PROCESS
IC106
CHROMA PROCESS
IC105
Y PROCESS
LINE LOCK AFC
VCO
IC102
Y PROCESS
IC103
IC101
REC/PB AMP
IC104
CHARACTER GENERATOR
IC108
D/A CONVERTER (EVR)
IC117
HEAD 1A
HEAD 1B
HEAD 2A
HEAD 2B
LPF
FILTER
BUFFER
AGC
BPF
EQ. PEAKING
TRAP
AMP
PLL
FRF/2
SW
CAMERA PROCESS
CAMERA Y PROCESS
CAM 3.2V
D 3.2V
A 3.2V
A 4.9V
BCK 3.2V
1/2 RF SWP
IC152 (31) CAMERA REC
IC152 (32) CAMERA REC
IC152 (33) CAMERA REC
IC152 (34)-(38) CAMERA REC
IC106 (14) CAMERA REC
IC106 (14) REC
IC106 (10) CAMERA REC
IC106 (10) REC/PB
IC105 (69) CAMERA REC
IC105 (69) REC/PB
IC101 (23)-(25),(27)
IC102 (22) REC
IC101 (3) REC
IC101 (1) REC
IC152 (51) CAMERA REC
IC152 (50) CAMERA REC
IC106 (40) CAMERA REC
IC115 (11)-(14) CAMERA REC
IC106 (47) CAMERA REC
IC106 (46) CAMERA REC
IC103 (25) REC
IC103 (27) PB
IC114 (18) CAMERA REC
IC114 (17) CAMERA REC
IC115 (24) CAMERA REC
IC115 (25) CAMERA REC
IC106 (29) CAMERA REC
IC105 (35) CAMERA REC
IC103 (9),(10) REC/PB
IC103 (11),(12) REC/PB
IC101 (17) PB
IC101 (21) REC/PB
IC101 (5) REC
IC101 (11) PB
IC115 (26) CAMERA REC
IC115 (27)-(31) CAMERA REC
IC103 (13),(14) REC/PB
IC103 (15),(16) REC/PB
Q1001 (C) REC
EVF Y, EVF C
CGR, CGB, CGG, CGBLK


IC106
IC105
IC102
IC101
REC/PB AMP
IC103
IC104
CHARACTER GENERATOR
IC128
VIDEO SUB CODE
IC108
D/A CONVERTER (EVR)
Y PROCESS
LINE LOCK AFC
VCO
MOD
DEMOD
A/D
PLL
FRF/2
BUFFER
LPF
FILTER
SW
AGC
BPF
EQ. PEAKING
TRAP
AMP
GCA, MIX AMP
REC AMP
PB AMP
MUTE
FLYING ERASE OSC
PEAKING BUFFER
VIDEO HEAD
CH1A
CH1B
CH2A
CH2B
FLYING ERASE
CN1001
CN4 (FOR CHECK)
AFC FO (IC105)
RF AGC OUT (IC101 ⑨)
RF AGC IN (IC101 ⑪)
PB RF
REC RF
RF SWP
1/2 SWP
Q1001-1003, 1008
XFE ON
CN1
CAM DD ON
XSYS RST
OSD SO
XCS OSD
XOSD SCK
HI SI
HI SO
XCS VSC
XHI SCK
MODE CONTROL (VA-96)
(SEE PAGE 3-24)
FSC
EZ IN/XOUT
AUX IN/XOUT
REC AFM
PB RF
1.5M DEV
1.7M DEV
AU BPF
AU FADE
SP VOL
AUDIO (VA-96)
(SEE PAGE 3-19)
(SEE PAGE 3-11)
CFG DUTY
REC ATF
PB RF
SERVO
SWP (IC117④)
X1/2 SWP (IC117③)
SYS V (IC117②)
XCS IO (IC117㉔)
XCS SYSTEM (IC117㉓)
XRST SYSTEM (IC117㉕)
VC SCK (IC117㉟)
VC SI (IC117㉞)
VC SO (IC117㉝)
RP PB MODE (IC117①)
X FE ON (IC117②)
X MP/ME (IC102⑱)
XTBC V RESET (IC117⑪)
MECHA VD (IC117㉛)
TBC VD (IC117㉜)
CSYNC (IC117㉚)
MECHA FLD (IC117㉞)
XSG V RST (IC117(100))
CK CONT (IC117㉙)
DA STB (IC117㉒)
HALL GAIN
HALL OFFSET
CL
MEMI VD (IC152㉛)
MEMI VD
PB RF
HEAD 1A (IC117㊳)
HEAD 2A (IC117㉞)
HEAD 1B (IC117㉟)
HEAD 2B (IC117㊱)
VTR/CAMERA CONTROL
(SEE PAGE 3-16, 17)
(SEE PAGE 4-73)
VA-96 BOARD
CN60
CN052
EVF Y
EVF C
LCD Y/V
LCD C
CG BLK
CG B
CG G
CG R
LCD (PD-64)
(SEE PAGE 3-25)
CGR, CGB, CGG, CGBLK
EVF Y, EVF C
A 3.2V
D 3.2V
A 4.9V
A 4.9V
REC C
REC Y
PB Y
PB C
RF AGC OUT
C IN
IC106 ⑭ REC
IC106 ⑩ CAMERA REC
IC106 ⑩ REC/PB
IC105 ㊾ CAMERA REC
IC105 ㊾ REC/PB
IC101 ㉓-㉕ ㉗ REC
IC102 ㉒ REC
IC101 ③ REC
IC101 ㊸ REC
IC101 ㉝, ㊲ REC(HI8 ME)
IC101 ㊹, ㊽ REC(HI8 ME)
IC101 ① REC
IC103 ㉕ REC
IC103 ㉗ PB
IC101 ㉒ PB
IC101 ㉒ REC
IC106 ㊼ CAMERA REC
IC106 ㊻ CAMERA REC
IC106 ㉙ CAMERA REC
IC105 ㉟ CAMERA REC
IC103 ⑨, ⑩ REC/PB
IC103 ⑪, ⑫ REC/PB
IC101 ⑰ PB
IC101 ㉑ REC/PB
IC101 ⑤ REC
IC101 ⑪ PB
IC103 ⑬, ⑭ REC/PB
IC103 ⑮, ⑯ REC/PB
Q1001 Ⓒ REC
NTSC:66msec PAL:80msec
3Vp-p

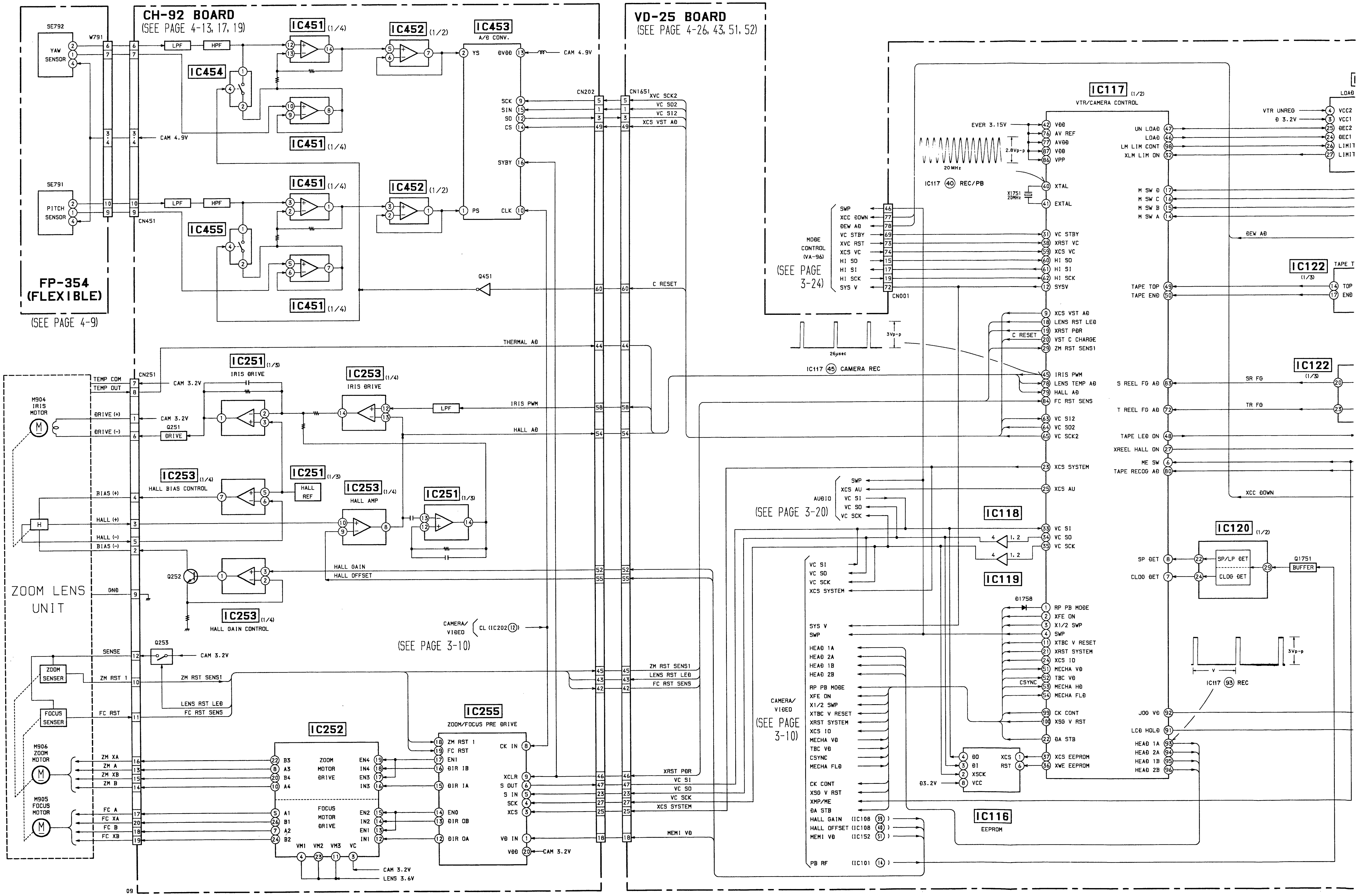
3-3. SERVO BLOCK DIAGRAM

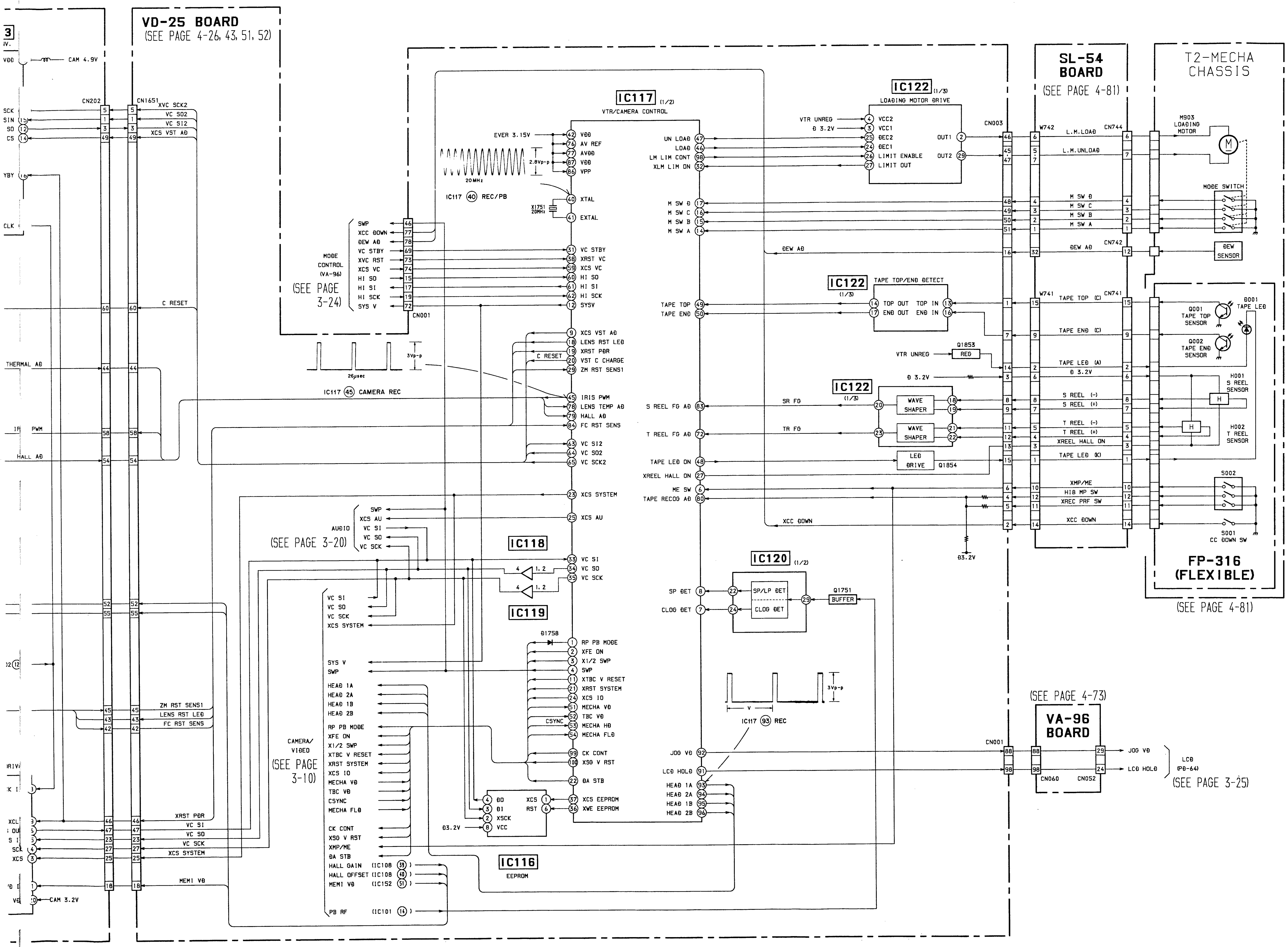


SL-54 BOARD (1/2)
(SEE PAGE 4-81)
T2-MECHA (1/2)
DRUM
FG
PG
D FG
FG/PG COM
D PG
W743
CN734
CN742
CAPSTAN FG
IC001 (2/2)
CFG Vcc
CFG (+)
CFG GND
CFG (-)
CAPSTAN FG WAVE SHAPER
OFFSET ADJ
VD-25 BOARD
(SEE PAGE 4-43, 51, 52)
NTSC: 270Hz PAL: 224Hz IC121 ⑱ REC/PB
3Vp-p
IC121 (1/2)
DRUM FG/PG WAVE SHAPER
CN3
LPF
WAVE SHAPER
V REF
D 3.2V
IC121 ⑪ REC/PB
CAP FG
CFG DUTY
IC108 ⑬
CAMERA/VIDEO BLOCK
(SEE PAGE 3-10)
3.2Vp-p
NTSC: 1.3mmsec PAL: 0.9mmsec
IC117 ㊳ REC/PB
CN4 (FOR CHECK)
NTSC: 11.89MHz PAL: 11.71MHz
NTSC: 1.8Vp-p PAL: 1.6Vp-p
IC117 ㊷ REC/PB
NTSC: 34mmsec PAL: 26mmsec
IC117 ㊱ REC/PB
NTSC: 2.8mmsec PAL: 4.4mmsec
IC117 ㊲ REC/PB
26μsec
IC117 ㊹ REC/PB
IC117 (1/2)
SERVO
DRUM FG
DRUM PG
CAPSTAN SERVO
CAP FG
OSCO
OSCI
X1752 11.89MHz (SC55) 11.719MHz (SC55E)
ATF ERR AD
VTR/CAMERA CONTROL
CFG HMS
VDD
A VREF
A VDD
VDD VPP
EVER 3.15V
XCS ATF
VC SO
VC SCK
ATF STBY
IC118
IC119
DRUM PWM
CAP PWM
REF PILOT
DRUM ON
CAP ON
CAP FWD
RP PB MODE
ATF 5.9M
RP PB
IC122 (1/4)
LPF
PROTECT
0.22V
ATT
25μsec
IC117 ㊸ REC/PB
NTSC: 5.94MHz PAL: 5.85MHz
IC117 ㊾ REC/PB
3.3Vp-p
DRUM ERROR
CAP ERROR
Q1852 BUFFER
CAP ON
CN1
IC120 (1/2)
ATF SERVO
REC/PB
REF PILOT
CLK 5.9M
NTSC: 0.4Vp-p PAL: 0.3Vp-p
H: 5μsec V: 0.2Vdiv
IC120 ⑬ REC
REC ATF
CAMERA/VIDEO BLOCK
(SEE PAGE 3-10)
Q1751 BUFF
SPIN
PB RF
LPF
LPF. AMP
MODULATOR
16KHz BPF
46KHz BPF
DET
V REF
ERR
DVDD
AVDD
CS
SIN
SCLK
STBY
NTSC
PAL
0.4Vp-p
0.6Vp-p
2V
IC120 ㉛ PB
VA-96 BOARD
(SEE PAGE 4-70, 74)
0.9Vp-p
IC110 ㊹ REC/PB
NTSC: 423kHz PAL: 441kHz
IC110 (1/2)
DRUM/CAPSTAN PWM DRIVE
CN60
SHORT CIRCUIT PROTECT
PWM
SWITCHING DRIVE
MT UNREG
L1507
Q1508 SWITCHING
VTR D/D ON
OSC
OUTPUT VCC 456
IC110 ④ REC/PB
Q1509 SWITCHING
L1508
0.3Vp-p
IC120 ② PB
09


T2-MECHA
(1/2)
SL-54 BOARD (1/2)
(SEE PAGE 4-81)
0.9Vp-p
10 (64) REC/PB
NTSC:423kHz
PAL:441kHz
MT UNREG
Q1508
SWITCHING
L1507
CN60
CN1
DRUM VS
40
42
64
66
1Vp-p
IC110 (4) REC/PB
NTSC:423kHz
PAL:442kHz
OUTPUT
VCC 456
MT UNREG
Q1509
SWITCHING
L1508
VTR UNREG
B 3.2V
NTSC:270Hz
PAL:224Hz
NTSC:1.6Vp-p
PAL:1.3Vp-p
IC121 (1),(2),(29) REC/PB
DRUM COM
CN3
W742
CN743
COM
Vcc 2
Vcc 1
COM
VS
DRUM ON
STBY
U IN
V IN
W IN
CONTROL
LOGIC
OUTPUT
DRIVE
BUFFER
OUTPUT
DRIVE
U
V
W
DRUM U
DRUM V
DRUM W
M901
DRUM MOTOR
IC121 (1/2)
DRUM MOTOR DRIVE
I COM
R1851-1854
DRUM DRIVE
CURRENT SENS
CN3
W742
CN742
CAP VS
VTR UNREG
CAP ON
CAP FWD
IC001 (1/2)
CAPSTAN MOTOR DRIVE
VS
Vcc
H1 (+)
H1 (-)
H2 (+)
H2 (-)
H3 (+)
H3 (-)
U IN 1
U IN 2
V IN 1
V IN 2
W IN 1
W IN 2
120°
LOGIC
STBY
POWER
OFF
FRC
HE
POWER
VH+
VH-
M902
CAPSTAN MOTOR
CAP U
CAP V
CAP W
C HALL Vcc
C HALL GND
0.4Vp-p
2V
IC (2) PB
V REF
ERR
DVDD
AVDD
B 3.2V
IC120 (3) PB
NTSC
0.25Vp-p
2V
PAL
0.5Vp-p
2V
IC120 (3) PB

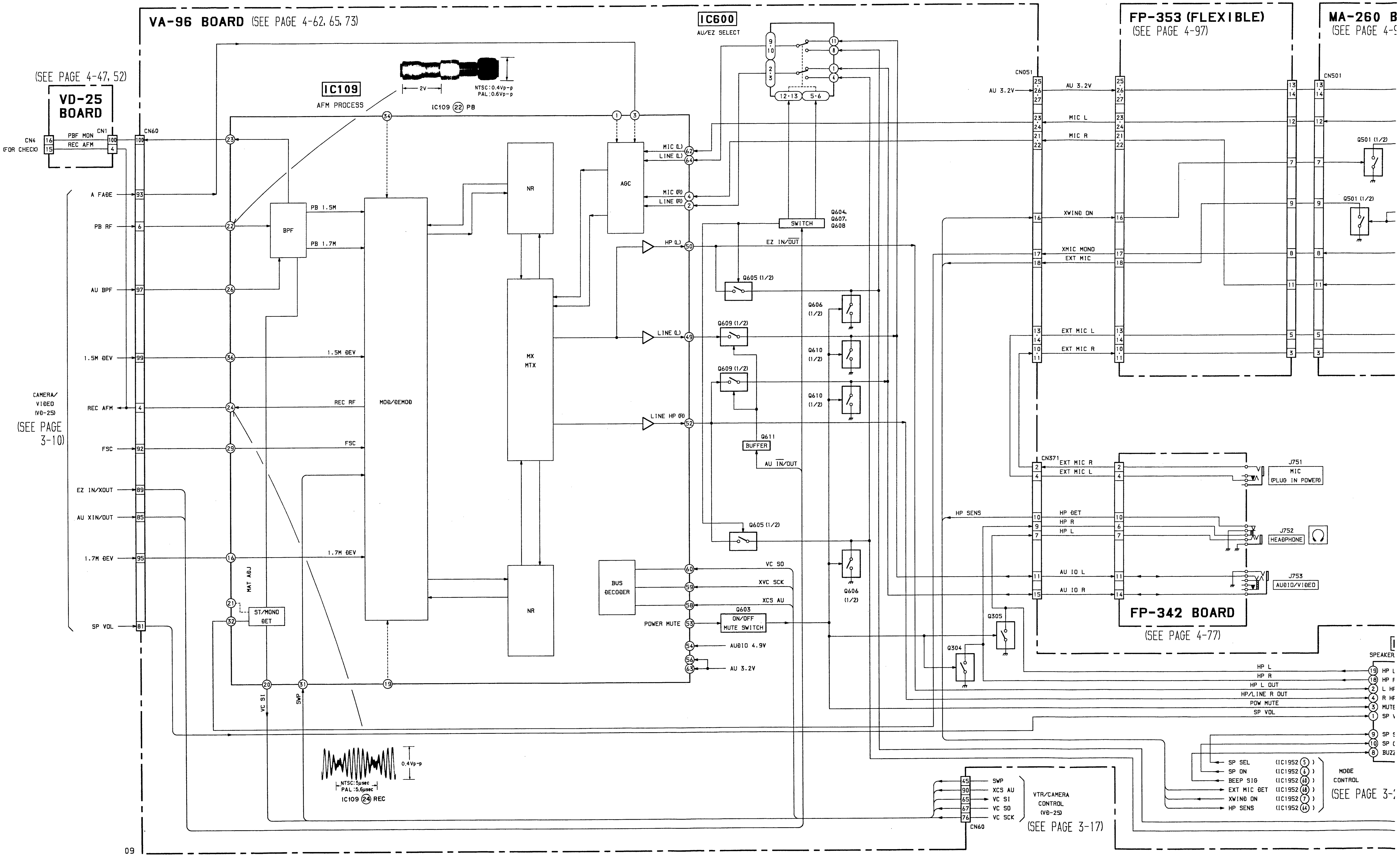
3-4. VTR/CAMERA CONTROL BLOCK DIAGRAM

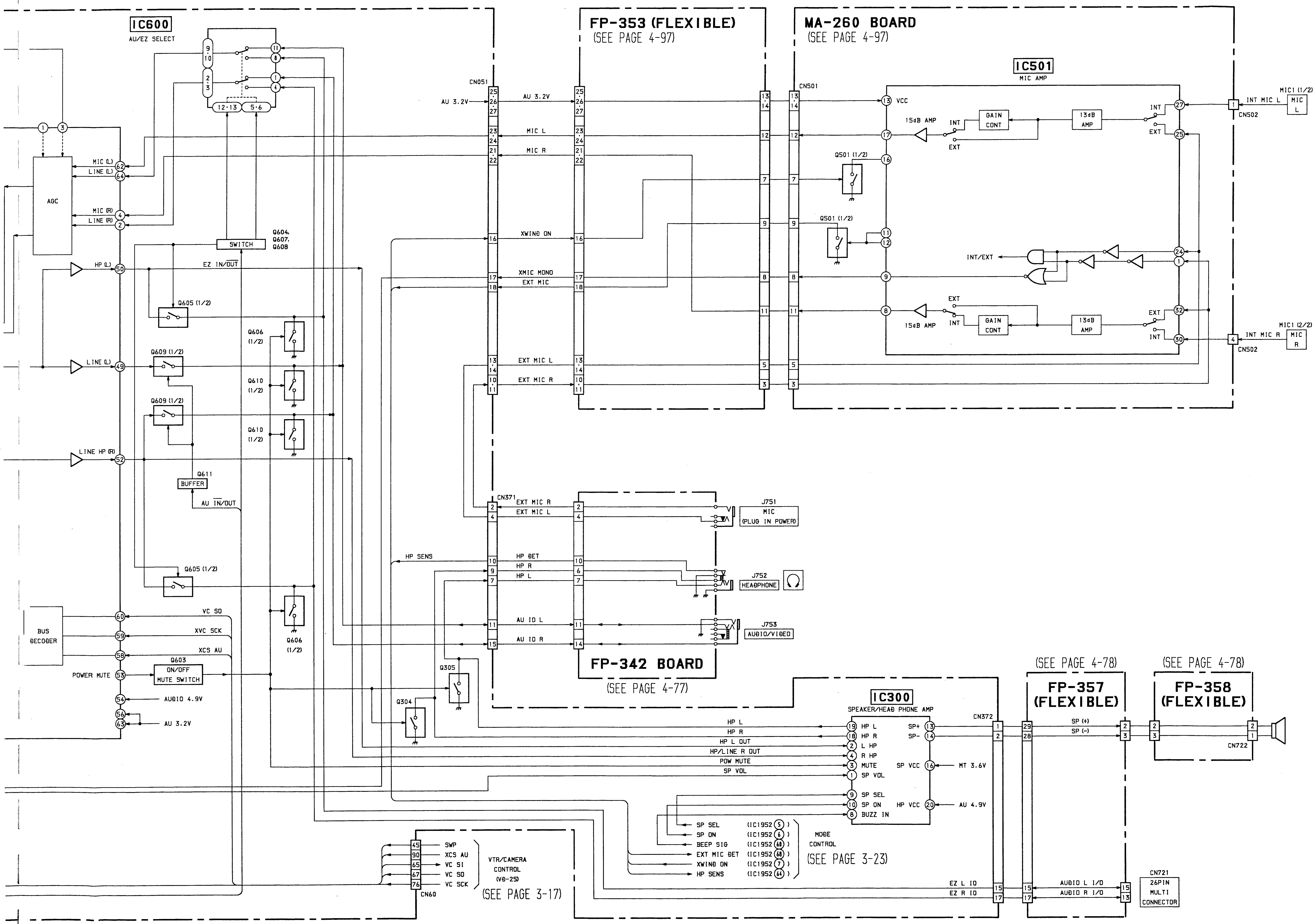

CH-92 BOARD
(SEE PAGE 4-13, 17, 19)
VD-25 BOARD
(SEE PAGE 4-26, 43, 51, 52)
FP-354
(FLEXIBLE)
(SEE PAGE 4-9)
SE792
YAW SENSOR
SE791
PITCH SENSOR
W791
CN451
LPF
HPF
IC451 (1/4)
IC452 (1/2)
IC453
A/D CONV.
IC454
IC455
CAM 4.9V
SCK
SIN
SO
CS
SYBY
CLK
YS
PS
DVDD
CN202
CN1651
XVC SCK2
VC SO2
VC SI2
XCS VST AD
Q451
C RESET
THERMAL AD
IC251 (1/3)
IRIS DRIVE
IC253 (1/4)
IRIS DRIVE
CN251
TEMP COM
TEMP OUT
CAM 3.2V
Q251
DRIVE
DRIVE (+)
DRIVE (-)
M904 IRIS MOTOR
IRIS PWM
HALL AD
IC253 (1/4)
HALL BIAS CONTROL
IC251 (1/3)
HALL REF
IC253 (1/4)
HALL AMP
BIAS (+)
HALL (+)
HALL (-)
BIAS (-)
Q252
HALL GAIN
HALL OFFSET
IC253 (1/4)
HALL GAIN CONTROL
ZOOM LENS UNIT
GND
CAMERA/VIDEO
CL (IC202 ⑫)
(SEE PAGE 3-10)
SENSE
Q253
ZOOM SENSER
ZM RST 1
ZM RST SENS1
FOCUS SENSER
FC RST
LENS RST LED
FC RST SENS
M906 ZOOM MOTOR
ZM XA
ZM A
ZM XB
ZM B
M905 FOCUS MOTOR
FC A
FC XA
FC B
FC XB
IC252
ZOOM MOTOR DRIVE
FOCUS MOTOR DRIVE
EN4
IN4
EN3
IN3
EN2
IN2
EN1
IN1
VM1
VM2
VM3
VC
CAM 3.2V
LENS 3.6V
IC255
ZOOM/FOCUS PRE DRIVE
ZM RST 1
FC RST
EN1
DIR 1B
DIR 1A
EN0
DIR 0B
DIR 0A
CK IN
XCLR
S OUT
S IN
SCK
XCS
VD IN
VDD
XRST PDR
VC SI
VC SO
VC SCK
XCS SYSTEM
MEMI VD
IC117 (1/2)
VTR/CAMERA CONTROL
EVER 3.15V
VDD
AV REF
AVDD
VDD
VPP
2.8Vp-p
20MHz
IC117 ⑩ REC/PB
X1751 20MHz
XTAL
EXTAL
MODE CONTROL (VA-96)
(SEE PAGE 3-24)
SWP
XCC DOWN
DEW AD
VC STBY
XVC RST
XCS VC
HI SO
HI SI
HI SCK
SYS V
CN001
XRST VC
SYSV
3Vp-p
26μsec
IC117 ㊺ CAMERA REC
XCS VST AD
LENS RST LED
XRST PDR
VST C CHARGE
ZM RST SENS1
IRIS PWM
LENS TEMP AD
HALL AD
FC RST SENS
VC SI2
VC SO2
VC SCK2
XCS SYSTEM
AUDIO
(SEE PAGE 3-20)
XCS AU
VC SI
VC SO
VC SCK
IC118
IC119
D1758
RP PB MODE
XFE ON
X1/2 SWP
SWP
XTBC V RESET
XRST SYSTEM
XCS IO
MECHA VD
TBC VD
CSYNC
MECHA HD
MECHA FLD
CK CONT
XSG V RST
DA STB
XCS EEPROM
XWE EEPROM
IC116
EEPROM
D3.2V
XSCK
VCC
CAMERA/VIDEO
(SEE PAGE 3-10)
HEAD 1A
HEAD 2A
HEAD 1B
HEAD 2B
XMP/ME
HALL GAIN (IC108 ㉝)
HALL OFFSET (IC108 ㊵)
MEMI VD (IC152 ㊿)
PB RF (IC101 ⑭)
UN LOAD
LOAD
LM LIM CONT
XLM LIM ON
M SW D
M SW C
M SW B
M SW A
DEW AD
IC122 (1/3)
TAPE TOP
TAPE END
S REEL FG AD
T REEL FG AD
SR FG
TR FG
TAPE LED ON
XREEL HALL ON
ME SW
TAPE RECOG AD
XCC DOWN
IC120 (1/2)
SP DET
CLOG DET
SP/LP DET
Q1751 BUFFER
3Vp-p
IC117 ㊸ REC
JOG VD
LCD HOLD
VTR UNREG
D 3.2V
VCC2
VCC1
DEC2
DEC1
LIMIT
TAPE T
TOP
END
LOAD



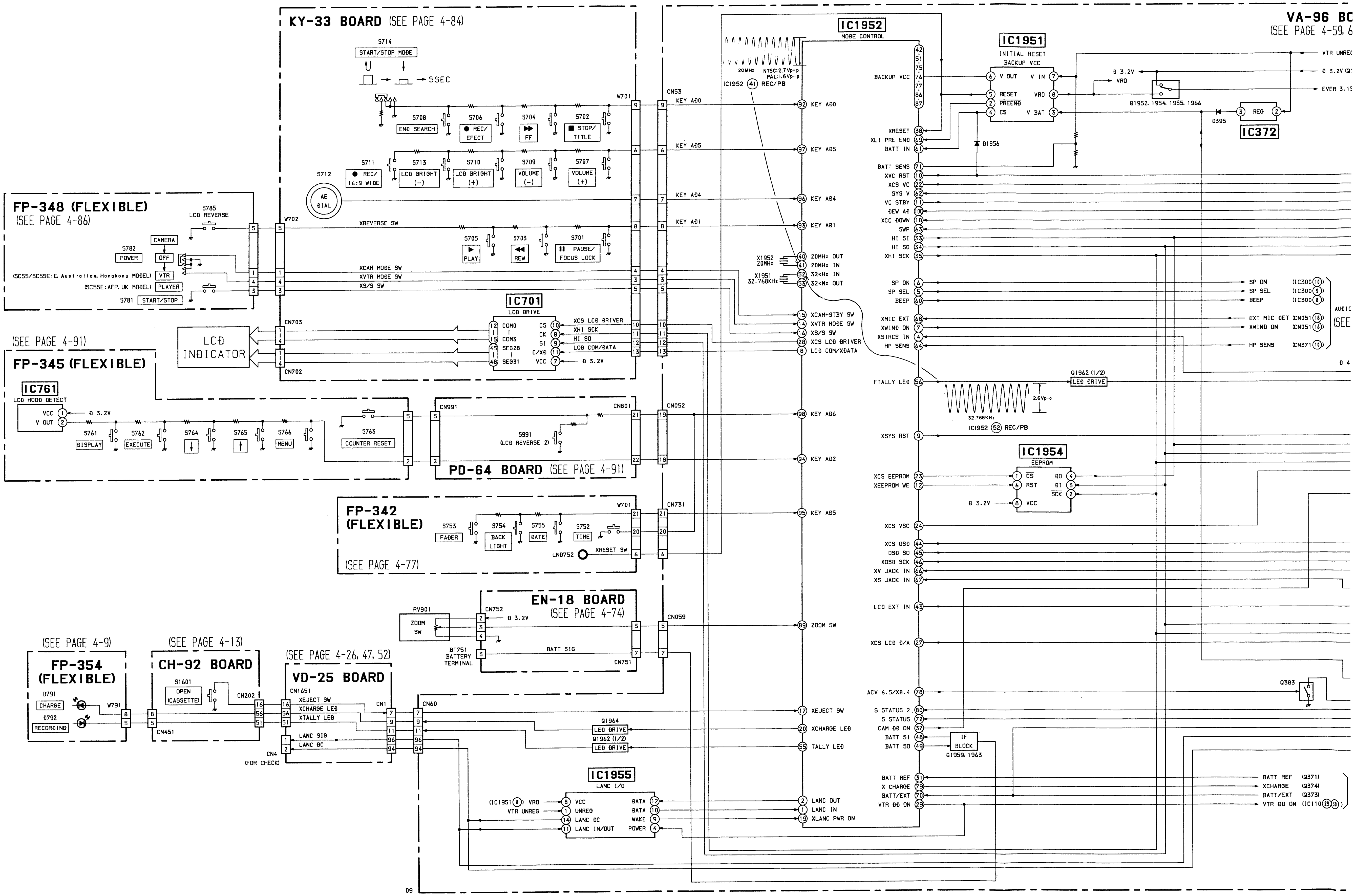
VD-25 BOARD
(SEE PAGE 4-26, 43, 51, 52)
IC117 (1/2)
VTR/CAMERA CONTROL
IC122 (1/3)
LOADING MOTOR DRIVE
IC122 (1/3)
TAPE TOP/END DETECT
IC122 (1/3)
WAVE SHAPER
LED DRIVE
IC118
IC119
IC120 (1/2)
SP/LP DET
CLOG DET
Q1751 BUFFER
Q1853 REG
Q1854
IC116
EEPROM
MODE CONTROL (VA-96)
(SEE PAGE 3-24)
AUDIO
(SEE PAGE 3-20)
CAMERA/VIDEO
(SEE PAGE 3-10)
IC117 (40) REC/PB
IC117 (45) CAMERA REC
IC117 (93) REC
EVER 3.15V
20MHz
2.8Vp-p
3Vp-p
26μsec
X1751 20MHz
CN202
CN1651
CN001
CN003
CN001
CAM 4.9V
CAM 3.2V
THERMAL AD
C RESET
ZM RST SENS1
LENS RST LED
FC RST SENS
XRST PDR
VC SI
VC SO
VC SCK
XCS SYSTEM
MEMI VD
VDD
AV REF
AVDD
VPP
XTAL
EXTAL
VC STBY
XRST VC
XCS VC
HI SO
HI SI
HI SCK
SYSV
XCS VST AD
LENS RST LED
XRST PDR
VST C CHARGE
ZM RST SENS1
IRIS PWM
LENS TEMP AD
HALL AD
FC RST SENS
VC SI2
VC SO2
VC SCK2
XCS SYSTEM
XCS AU
RP PB MODE
XFE ON
X1/2 SWP
SWP
XTBC V RESET
XRST SYSTEM
XCS ID
MECHA VD
TBC VD
MECHA HD
MECHA FLD
CK CONT
XSG V RST
DA STB
XCS EEPROM
XWE EEPROM
UN LOAD
LOAD
LM LIM CONT
XLM LIM ON
M SW D
M SW C
M SW B
M SW A
DEW AD
TAPE TOP
TAPE END
S REEL FG AD
T REEL FG AD
TAPE LED ON
XREEL HALL ON
ME SW
TAPE RECOG AD
XCC DOWN
SP DET
CLOG DET
JOG VD
LCD HOLD
HEAD 1A
HEAD 2A
HEAD 1B
HEAD 2B
HALL GAIN (IC108 (39))
HALL OFFSET (IC108 (40))
MEMI VD (IC152 (51))
PB RF (IC101 (14))
VTR UNREG
D 3.2V
VCC2
VCC1
DEC2
DEC1
LIMIT ENABLE
LIMIT OUT
OUT1
OUT2
TOP OUT
END OUT
TOP IN
END IN
SR FG
TR FG
SL-54 BOARD
(SEE PAGE 4-81)
W742
CN744
L.M.LOAD
L.M.UNLOAD
CN742
W741
CN741
TAPE TOP (C)
TAPE END (C)
TAPE LED (A)
S REEL (-)
S REEL (+)
T REEL (-)
T REEL (+)
XREEL HALL ON
TAPE LED (K)
XMP/ME
HI8 MP SW
XREC PRF SW
T2-MECHA CHASSIS
M903 LOADING MOTOR
MODE SWITCH
DEW SENSOR
Q001 TAPE TOP SENSOR
D001 TAPE LED
Q002 TAPE END SENSOR
H001 S REEL SENSOR
H002 T REEL SENSOR
S002
S001 CC DOWN SW
FP-316 (FLEXIBLE)
(SEE PAGE 4-81)
(SEE PAGE 4-73)
VA-96 BOARD
CN060
CN052
JOG VD
LCD HOLD
LCD (PD-64)
(SEE PAGE 3-25)
D1758
D3.2V

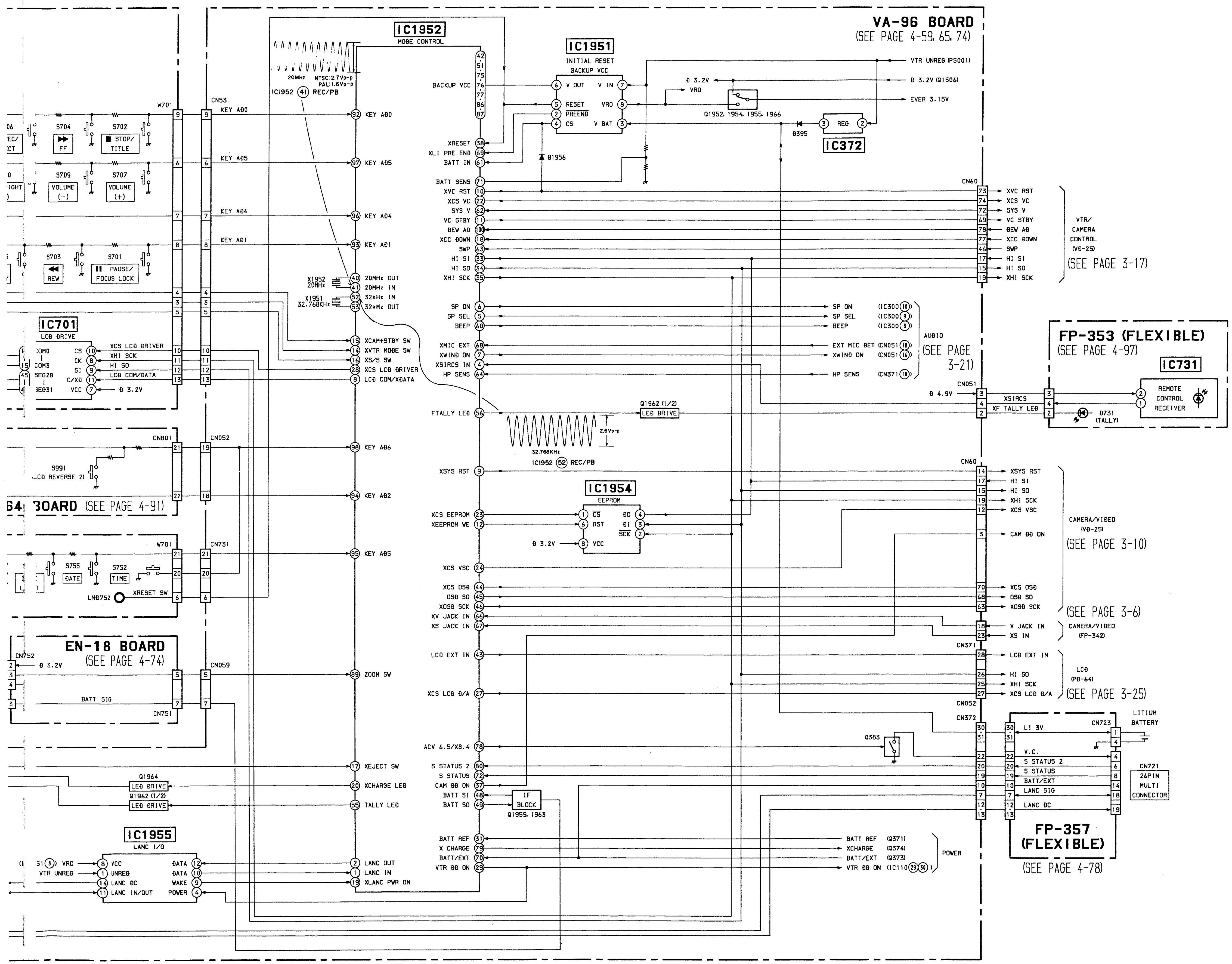
3-5. AUDIO BLOCK DIAGRAM


VA-96 BOARD (SEE PAGE 4-62, 65, 73)
(SEE PAGE 4-47, 52)
VD-25 BOARD
CN1
CN4 (FOR CHECK)
16
15
PBF MON
REC AFM
100
4
CN60
A FADE
PB RF
AU BPF
1.5M DEV
REC AFM
FSC
EZ IN/XOUT
AU XIN/OUT
1.7M DEV
SP VOL
CAMERA/VIDEO (VD-25)
(SEE PAGE 3-10)
IC109
AFM PROCESS
2V
NTSC:0.4Vp-p
PAL:0.6Vp-p
IC109 ㉒ PB
BPF
PB 1.5M
PB 1.7M
1.5M DEV
REC RF
FSC
1.7M DEV
MOD/DEMOD
MAT ADJ
ST/MONO DET
NR
MX MTX
NR
AGC
BUS DECODER
VC SI
SWP
0.4Vp-p
NTSC:5μsec
PAL:5.6μsec
IC109 ㉔ REC
IC600
AU/EZ SELECT
12·13
5·6
SWITCH
Q604, Q607, Q608
MIC (L)
LINE (L)
MIC (R)
LINE (R)
HP (L)
EZ IN/OUT
LINE (L)
LINE HP (R)
VC SO
XVC SCK
XCS AU
POWER MUTE
AUDIO 4.9V
AU 3.2V
Q605 (1/2)
Q606 (1/2)
Q609 (1/2)
Q610 (1/2)
Q611
BUFFER
AU IN/OUT
Q603
ON/OFF MUTE SWITCH
Q305
Q304
09
CN051
AU 3.2V
AU 3.2V
MIC L
MIC R
XWIND ON
XMIC MONO
EXT MIC
EXT MIC L
EXT MIC R
HP SENS
FP-353 (FLEXIBLE)
(SEE PAGE 4-97)
MA-260 B
(SEE PAGE 4-
CN501
Q501 (1/2)
Q501 (1/2)
CN371
EXT MIC R
EXT MIC L
HP DET
HP R
HP L
AU IO L
AU IO R
J751
MIC
(PLUG IN POWER)
J752
HEADPHONE
J753
AUDIO/VIDEO
FP-342 BOARD
(SEE PAGE 4-77)
SPEAKER
HP L
HP R
HP L OUT
HP/LINE R OUT
POW MUTE
SP VOL
SP SEL (IC1952 ⑤)
SP ON (IC1952 ⑥)
BEEP SIG (IC1952 ㊻)
EXT MIC DET (IC1952 ㊽)
XWIND ON (IC1952 ⑦)
HP SENS (IC1952 ㊹)
MODE CONTROL
(SEE PAGE 3-
SWP
XCS AU
VC SI
VC SO
VC SCK
CN60
VTR/CAMERA CONTROL (VD-25)
(SEE PAGE 3-17)

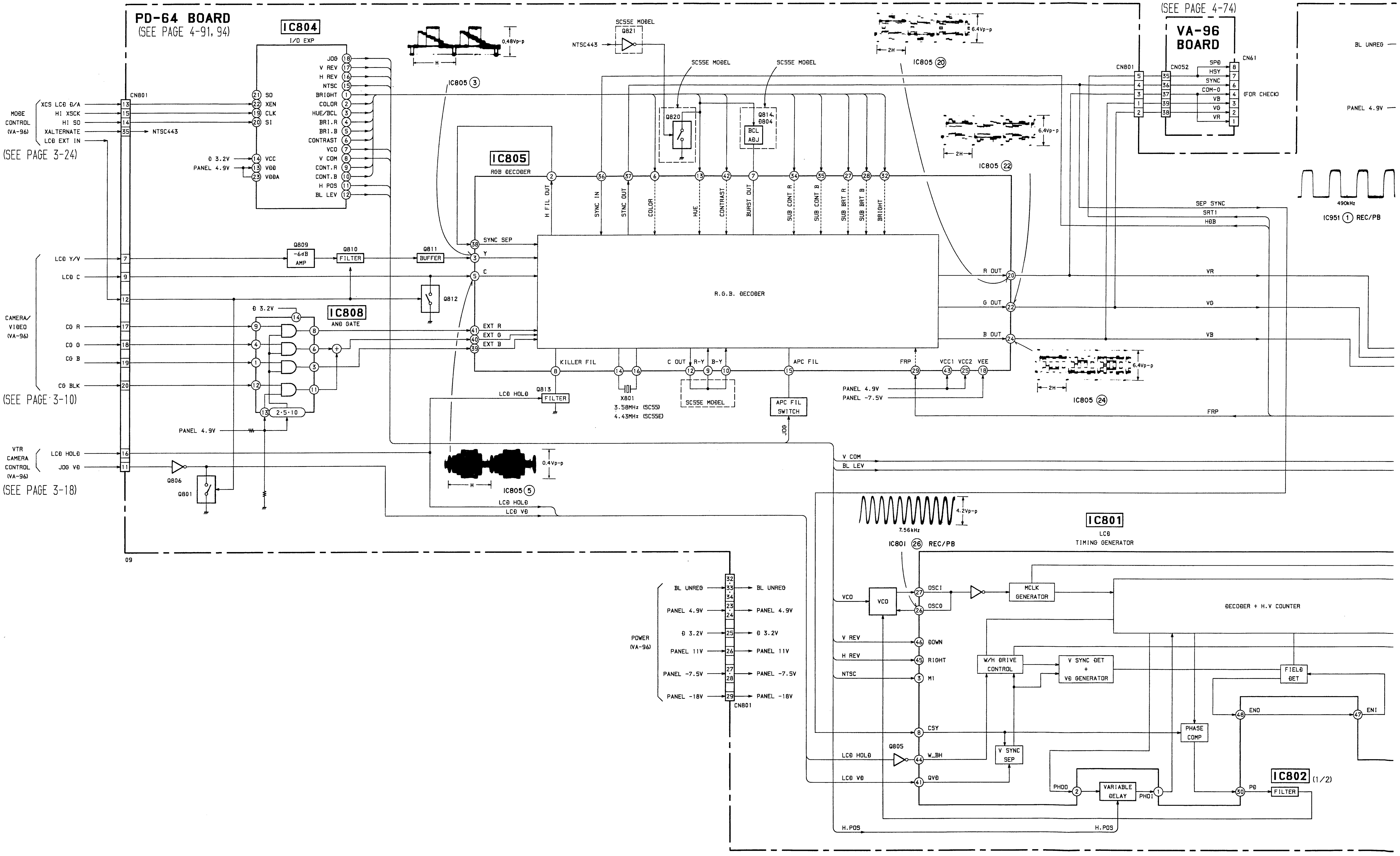

IC600
AU/EZ SELECT
AGC
MIC (L)
LINE (L)
MIC (R)
LINE (R)
HP (L)
LINE (L)
LINE HP (R)
SWITCH
Q604, Q607, Q608
EZ IN/OUT
Q605 (1/2)
Q606 (1/2)
Q609 (1/2)
Q610 (1/2)
Q611
BUFFER
AU IN/OUT
BUS DECODER
VC SO
XVC SCK
XCS AU
Q603
ON/OFF MUTE SWITCH
POWER MUTE
AUDIO 4.9V
AU 3.2V
Q305
Q304
HP SENS
CN051
AU 3.2V
MIC L
MIC R
XWIND ON
XMIC MONO
EXT MIC
EXT MIC L
EXT MIC R
FP-353 (FLEXIBLE)
(SEE PAGE 4-97)
MA-260 BOARD
(SEE PAGE 4-97)
CN501
IC501
MIC AMP
VCC
15dB AMP
GAIN CONT
13dB AMP
INT
EXT
Q501 (1/2)
INT/EXT
MIC1 (1/2)
INT MIC L
MIC L
CN502
MIC1 (2/2)
INT MIC R
MIC R
CN371
HP DET
HP R
HP L
AU IO L
AU IO R
J751
MIC (PLUG IN POWER)
J752
HEADPHONE
J753
AUDIO/VIDEO
FP-342 BOARD
(SEE PAGE 4-77)
IC300
SPEAKER/HEAD PHONE AMP
HP L
HP R
HP L OUT
HP/LINE R OUT
POW MUTE
SP VOL
L HP
R HP
MUTE
SP SEL
SP ON
BUZZ IN
SP+
SP-
SP VCC
MT 3.6V
HP VCC
AU 4.9V
CN372
SP SEL (IC1952 ⑤)
SP ON (IC1952 ⑥)
BEEP SIG (IC1952 (68))
EXT MIC DET (IC1952 (68))
XWIND ON (IC1952 ⑦)
HP SENS (IC1952 (64))
MODE CONTROL
(SEE PAGE 3-23)
SWP
XCS AU
VC SI
VC SO
VC SCK
CN60
VTR/CAMERA CONTROL (VA-25)
(SEE PAGE 3-17)
EZ L IO
EZ R IO
(SEE PAGE 4-78)
FP-357 (FLEXIBLE)
(SEE PAGE 4-78)
FP-358 (FLEXIBLE)
SP (+)
SP (-)
AUDIO L I/O
AUDIO R I/O
CN721
26PIN MULTI CONNECTOR
CN722

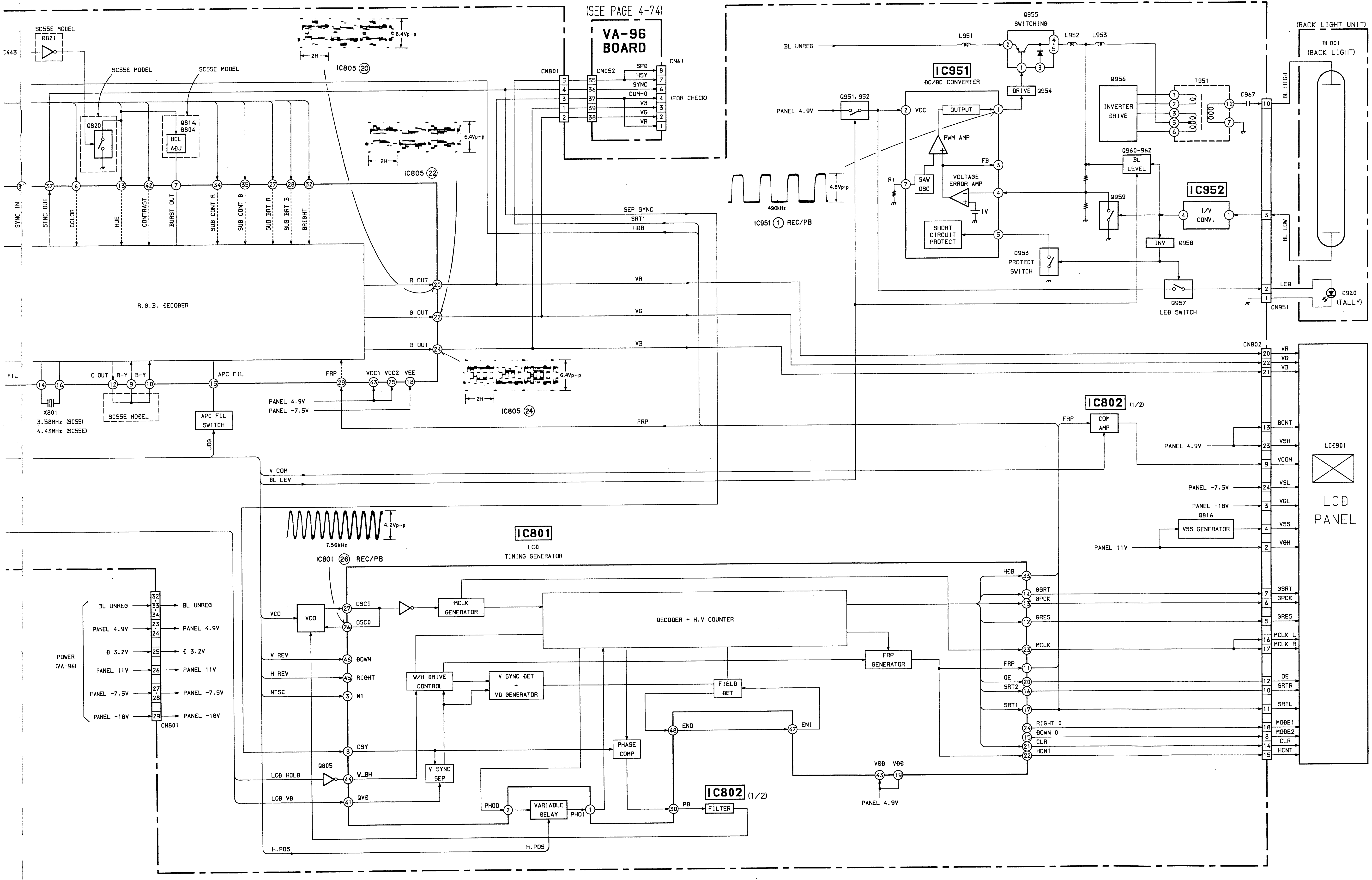
3-6. MODE CONTROL BLOCK DIAGRAM


KY-33 BOARD (SEE PAGE 4-84)
S714
START/STOP MODE
5SEC
W701
S708 END SEARCH
S706 ● REC/ EFECT
S704 ▶▶ FF
S702 ■ STOP/ TITLE
S712
AE DIAL
S711 ● REC/ 16:9 WIDE
S713 LCD BRIGHT (−)
S710 LCD BRIGHT (+)
S709 VOLUME (−)
S707 VOLUME (+)
XREVERSE SW
S705 ▶ PLAY
S703 ◀◀ REW
S701 ❚❚ PAUSE/ FOCUS LOCK
XCAM MODE SW
XVTR MODE SW
XS/S SW
W702
FP-348 (FLEXIBLE)
(SEE PAGE 4-86)
S785 LCD REVERSE
S782 POWER
CAMERA
OFF
VTR
PLAYER
(SC55/SC55E:E, Australian, Hongkong MODEL)
(SC55E:AEP, UK MODEL)
S781 START/STOP
IC701
LCD DRIVE
COM0 COM3 SEG28 SEG31
CS CK SI C/XD VCC
XCS LCD DRIVER
XHI SCK
HI SO
LCD COM/DATA
D 3.2V
CN703
CN702
LCD INDICATOR
(SEE PAGE 4-91)
FP-345 (FLEXIBLE)
IC761
LCD HOLD DETECT
VCC
V OUT
D 3.2V
S761 DISPLAY
S762 EXECUTE
S764 ↓
S765 ↑
S766 MENU
S763 COUNTER RESET
CN991
CN801
S991 (LCD REVERSE 2)
PD-64 BOARD (SEE PAGE 4-91)
FP-342 (FLEXIBLE)
(SEE PAGE 4-77)
S753 FADER
S754 BACK LIGHT
S755 DATE
S752 TIME
XRESET SW
LND0752
EN-18 BOARD (SEE PAGE 4-74)
RV901 ZOOM SW
CN752
D 3.2V
BT751 BATTERY TERMINAL
BATT SIG
CN751
(SEE PAGE 4-9)
FP-354 (FLEXIBLE)
D791 CHARGE
D792 RECORDING
W791
(SEE PAGE 4-13)
CH-92 BOARD
S1601 OPEN (CASSETTE)
CN202
CN451
(SEE PAGE 4-26, 47, 52)
VD-25 BOARD
CN1651
XEJECT SW
XCHARGE LED
XTALLY LED
LANC SIG
LANC DC
CN1
CN4 (FOR CHECK)
CN60
CN53
KEY AD0
KEY AD5
KEY AD4
KEY AD1
CN052
CN731
CN059
VA-96 BC
(SEE PAGE 4-59, 6
IC1952
MODE CONTROL
20MHz NTSC:2.7Vp-p PAL:1.6Vp-p
IC1952 (41) REC/PB
BACKUP VCC
KEY AD0
KEY AD5
KEY AD4
KEY AD1
X1952 20MHz
X1951 32.768KHz
20MHz OUT
20MHz IN
32kHz IN
32kHz OUT
XCAM+STBY SW
XVTR MODE SW
XS/S SW
XCS LCD DRIVER
LCD COM/XDATA
KEY AD6
KEY AD2
KEY AD3
ZOOM SW
XEJECT SW
XCHARGE LED
TALLY LED
LANC OUT
LANC IN
XLANC PWR ON
XRESET
XLI PRE END
BATT IN
BATT SENS
XVC RST
XCS VC
SYS V
VC STBY
DEW AD
XCC DOWN
SWP
HI SI
HI SO
XHI SCK
SP ON
SP SEL
BEEP
XMIC EXT
XWIND ON
XSIRCS IN
HP SENS
FTALLY LED
2.6Vp-p
32.768KHz
IC1952 (52) REC/PB
Q1962 (1/2) LED DRIVE
XSYS RST
IC1954
EEPROM
XCS EEPROM
XEEPROM WE
CS RST VCC DO DI SCK
D 3.2V
XCS VSC
XCS OSD
OSD SO
XOSD SCK
XV JACK IN
XS JACK IN
LCD EXT IN
XCS LCD D/A
ACV 6.5/X8.4
S STATUS 2
S STATUS
CAM DD ON
BATT SI
BATT SO
IF BLOCK
Q1959, 1963
BATT REF
X CHARGE
BATT/EXT
VTR DD ON
Q1964 LED DRIVE
Q1962 (1/2) LED DRIVE
IC1955
LANC I/O
(IC1951 (8)) VRO
VTR UNREG
VCC UNREG LANC DC LANC IN/OUT
DATA DATA WAKE POWER
IC1951
INITIAL RESET BACKUP VCC
V OUT V IN RESET PRESEND CS VRO V BAT
D1956
D 3.2V
VRO
Q1952, 1954, 1955, 1966
D395
REG
IC372
VTR UNREG
D 3.2V (Q1
EVER 3.1
SP ON (IC300(10))
SP SEL (IC300(9))
BEEP (IC300(8))
AUDIO (SEE
EXT MIC DET (CN051(18))
XWIND ON (CN051(16))
HP SENS (CN371(10))
D 4
Q383
BATT REF (Q371)
XCHARGE (Q374)
BATT/EXT (Q373)
VTR DD ON (IC110(29)(30))
09

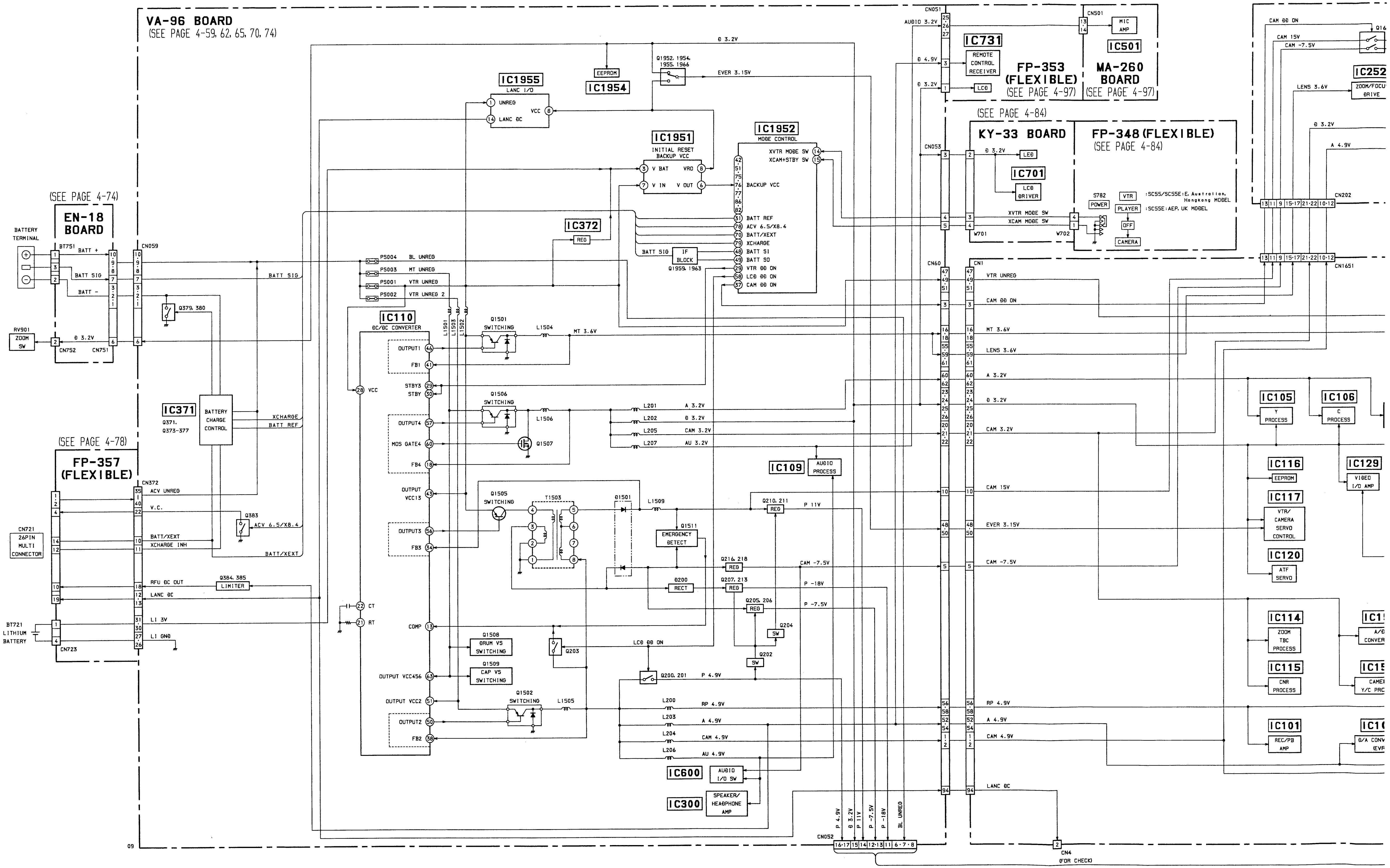

VA-96 BOARD
(SEE PAGE 4-59, 65, 74)
IC1952
MODE CONTROL
IC1951
INITIAL RESET
BACKUP VCC
IC372
REG
IC1954
EEPROM
IC1955
LANC I/O
IC701
LCD DRIVE
FP-353 (FLEXIBLE)
(SEE PAGE 4-97)
IC731
REMOTE CONTROL RECEIVER
D731
(TALLY)
FP-357
(FLEXIBLE)
(SEE PAGE 4-78)
EN-18 BOARD
(SEE PAGE 4-74)
BOARD (SEE PAGE 4-91)
VTR/ CAMERA CONTROL (VB-25)
(SEE PAGE 3-17)
AUDIO
(SEE PAGE 3-21)
CAMERA/VIDEO (VB-25)
(SEE PAGE 3-10)
(SEE PAGE 3-6)
CAMERA/VIDEO (FP-342)
LCD (PD-64)
(SEE PAGE 3-25)
POWER
LITIUM BATTERY
CN721
26PIN MULTI CONNECTOR
VTR UNREG (PS001)
D 3.2V (Q1506)
EVER 3.15V
Q1952, 1954, 1955, 1966
D395
D1956
20MHz
NTSC:2.7Vp-p
PAL:1.6Vp-p
IC1952 (41) REC/PB
2.6Vp-p
32.768KHz
IC1952 (52) REC/PB
X1952 20MHz
X1951 32.768KHz
Q1962 (1/2)
LED DRIVE
Q1964
LED DRIVE
IF BLOCK
Q1959, 1963
Q383
S704 FF
S702 STOP/ TITLE
S709 VOLUME (-)
S707 VOLUME (+)
S703 REW
S701 PAUSE/ FOCUS LOCK
S991 LCD REVERSE 2)
S755 DATE
S752 TIME
LND752 XRESET SW
W701
CN53
CN052
CN731
CN059
CN751
CN801
CN60
CN051
CN371
CN372
CN723
KEY AD0
KEY AD5
KEY AD4
KEY AD1
KEY AD6
KEY AD2
KEY AD5
BACKUP VCC
XRESET
XLI PRE END
BATT IN
BATT SENS
XVC RST
XCS VC
SYS V
VC STBY
DEW AD
XCC DOWN
SWP
HI SI
HI SO
XHI SCK
20MHz OUT
20MHz IN
32kHz IN
32kHz OUT
SP ON
SP SEL
BEEP
XCAM+STBY SW
XVTR MODE SW
XS/S SW
XCS LCD DRIVER
LCD COM/XDATA
XMIC EXT
XWIND ON
XSIRCS IN
HP SENS
FTALLY LED
XSYS RST
XCS EEPROM
XEEPROM WE
D 3.2V
XCS VSC
XCS DSD
DSD SO
XDSD SCK
XV JACK IN
XS JACK IN
LCD EXT IN
XCS LCD D/A
ZOOM SW
ACV 6.5/X8.4
XEJECT SW
XCHARGE LED
TALLY LED
S STATUS 2
S STATUS
CAM DD ON
BATT SI
BATT SO
BATT REF
X CHARGE
BATT/EXT
VTR DD ON
LANC OUT
LANC IN
XLANC PWR ON
SP ON (IC300 (10))
SP SEL (IC300 (9))
BEEP (IC300 (8))
EXT MIC DET (CN051 (18))
XWIND ON (CN051 (16))
HP SENS (CN371 (10))
D 4.9V
XSIRCS
XF TALLY LED
XCS VSC
CAM DD ON
V JACK IN
XS IN
LCD EXT IN
XCS LCD D/A
LI 3V
V.C.
LANC SIG
LANC DC
BATT REF (Q371)
XCHARGE (Q374)
BATT/EXT (Q373)
VTR DD ON (IC110 (25)(30))
XCS LCD DRIVER
XHI SCK
HI SO
LCD COM/DATA
VCC
DATA
WAKE
POWER
UNREG
LANC DC
LANC IN/OUT
VTR UNREG
BATT SIG

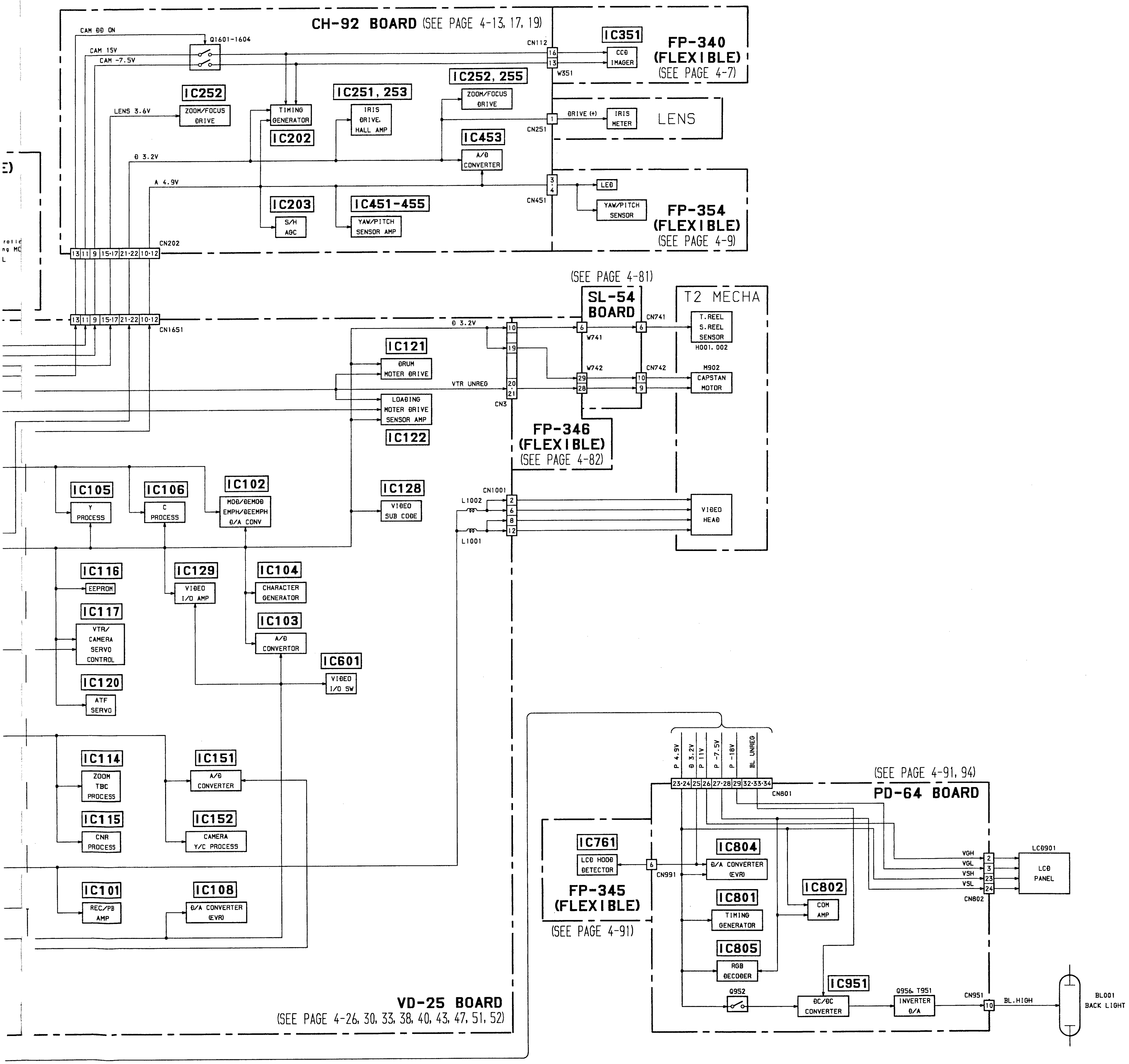
3-7. LCD BLOCK DIAGRAM


PD-64 BOARD
(SEE PAGE 4-91, 94)
IC804
I/O EXP
JOG 18
V REV 17
H REV 16
NTSC 15
BRIGHT 1
COLOR 2
HUE/BCL 3
BRI.R 4
BRI.B 5
CONTRAST 6
VCO 7
V COM 8
CONT.R 9
CONT.B 10
H POS 11
BL LEV 12
21 SO
22 XEN
19 CLK
20 SI
D 3.2V 14 VCC
PANEL 4.9V 13 VDD
23 VDDA
CN801
MODE CONTROL (VA-96)
XCS LCD D/A
HI XSCK
HI SO
XALTERNATE
LCD EXT IN
NTSC443
(SEE PAGE 3-24)
0.48Vp-p
H
IC805 3
SC55E MODEL
Q821
NTSC443
SC55E MODEL
SC55E MODEL
Q820
Q814, D804
BCL ADJ
IC805
RGB DECODER
H FIL OUT
SYNC IN
SYNC OUT
COLOR
HUE
CONTRAST
BURST OUT
SUB CONT R
SUB CONT B
SUB BRT R
SUB BRT B
BRIGHT
SYNC SEP
Y
C
EXT R
EXT G
EXT B
R.G.B. DECODER
R OUT
G OUT
B OUT
KILLER FIL
C OUT
R-Y
B-Y
APC FIL
FRP
VCC1
VCC2
VEE
LCD Y/V
LCD C
CAMERA/ VIDEO (VA-96)
CG R
CG G
CG B
CG BLK
(SEE PAGE 3-10)
Q809 -6dB AMP
Q810 FILTER
Q811 BUFFER
Q812
D 3.2V
IC808
AND GATE
2·5·10
PANEL 4.9V
LCD HOLD
Q813 FILTER
X801
3.58MHz (SC55)
4.43MHz (SC55E)
SC55E MODEL
APC FIL SWITCH
JOG
PANEL 4.9V
PANEL -7.5V
6.4Vp-p
2H
IC805 20
IC805 22
IC805 24
VTR CAMERA CONTROL (VA-96)
LCD HOLD
JOG VD
Q806
Q801
(SEE PAGE 3-18)
0.4Vp-p
IC805 5
LCD HOLD
LCD VD
V COM
BL LEV
(SEE PAGE 4-74)
VA-96 BOARD
CN801
CN052
CN61
SPD
HSY
SYNC
COM-O
VB
VG
VR
(FOR CHECK)
BL UNREG
PANEL 4.9V
490kHz
IC951 1 REC/PB
SEP SYNC
SRT1
HDB
VR
VG
VB
FRP
POWER (VA-96)
BL UNREG
PANEL 4.9V
D 3.2V
PANEL 11V
PANEL -7.5V
PANEL -18V
CN801
4.2Vp-p
7.56kHz
IC801 26 REC/PB
IC801
LCD TIMING GENERATOR
VCO
OSCI
OSCO
MCLK GENERATOR
DECODER + H.V COUNTER
V REV
H REV
NTSC
DOWN
RIGHT
M1
W/H DRIVE CONTROL
V SYNC DET + VD GENERATOR
FIELD DET
END
ENI
CSY
PHASE COMP
Q805
LCD HOLD
W_BH
V SYNC SEP
LCD VD
QVD
PHOO
VARIABLE DELAY
PHOI
PD
IC802 (1/2)
FILTER
H.POS
H.POS
09


SC55E MODEL
Q821
SC55E MODEL
SC55E MODEL
Q820
Q814, Q804
BCL ADJ
SYNC IN
SYNC OUT
COLOR
HUE
CONTRAST
BURST OUT
SUB CONT R
SUB CONT B
SUB BRT R
SUB BRT B
BRIGHT
R.G.B. DECODER
R OUT
G OUT
B OUT
C OUT
R-Y
B-Y
APC FIL
FRP
VCC1
VCC2
VEE
PANEL 4.9V
PANEL -7.5V
X801
3.58MHz (SC55)
4.43MHz (SC55E)
SC55E MODEL
APC FIL SWITCH
JOG
FIL
IC805 ⑳
IC805 ㉒
IC805 ㉔
6.4Vp-p
2H
(SEE PAGE 4-74)
VA-96 BOARD
CN801
CN052
CN61
SPD
HSY
SYNC
COM-O
VB
VG
VR
(FOR CHECK)
SEP SYNC
SRT1
HDB
VR
VG
VB
FRP
V COM
BL LEV
BL UNREG
PANEL 4.9V
Q951, 952
IC951
DC/DC CONVERTER
VCC
OUTPUT
PWM AMP
FB
SAW OSC
VOLTAGE ERROR AMP
SHORT CIRCUIT PROTECT
1V
R1
490kHz
4.8Vp-p
IC951 ① REC/PB
Q955
SWITCHING
L951
L952
L953
DRIVE
Q954
Q956
INVERTER DRIVE
T951
C967
Q960-962
BL LEVEL
Q959
IC952
I/V CONV.
INV
Q958
Q953
PROTECT SWITCH
Q957
LED SWITCH
(BACK LIGHT UNIT)
BL001
(BACK LIGHT)
BL HIGH
BL LOW
LED
D920
(TALLY)
CN951
CN802
IC802 (1/2)
COM AMP
PANEL 4.9V
PANEL -7.5V
PANEL -18V
Q816
VSS GENERATOR
PANEL 11V
VR
VG
VB
BCNT
VSH
VCOM
VSL
VGL
VSS
VGH
GSRT
GPCK
GRES
MCLK L
MCLK R
OE
SRTR
SRTL
MODE1
MODE2
CLR
HCNT
LCD901
LCD PANEL
7.56kHz
4.2Vp-p
IC801 ㉖ REC/PB
IC801
LCD TIMING GENERATOR
VCO
OSCI
OSCO
MCLK GENERATOR
DECODER + H.V COUNTER
DOWN
RIGHT
M1
V REV
H REV
NTSC
W/H DRIVE CONTROL
V SYNC DET + VD GENERATOR
FIELD DET
FRP GENERATOR
HDB
GSRT
GPCK
GRES
MCLK
FRP
OE
SRT2
SRT1
RIGHT 0
DOWN 0
CLR
HCNT
ENO
ENI
CSY
PHASE COMP
Q805
LCD HOLD
W_BH
V SYNC SEP
LCD VD
GVD
PHOO
VARIABLE DELAY
PHOI
PD
IC802 (1/2)
FILTER
H.POS
VDD
PANEL 4.9V
POWER (VA-96)
BL UNREG
PANEL 4.9V
D 3.2V
PANEL 11V
PANEL -7.5V
PANEL -18V
CN801

3-8. POWER BLOCK DIAGRAM

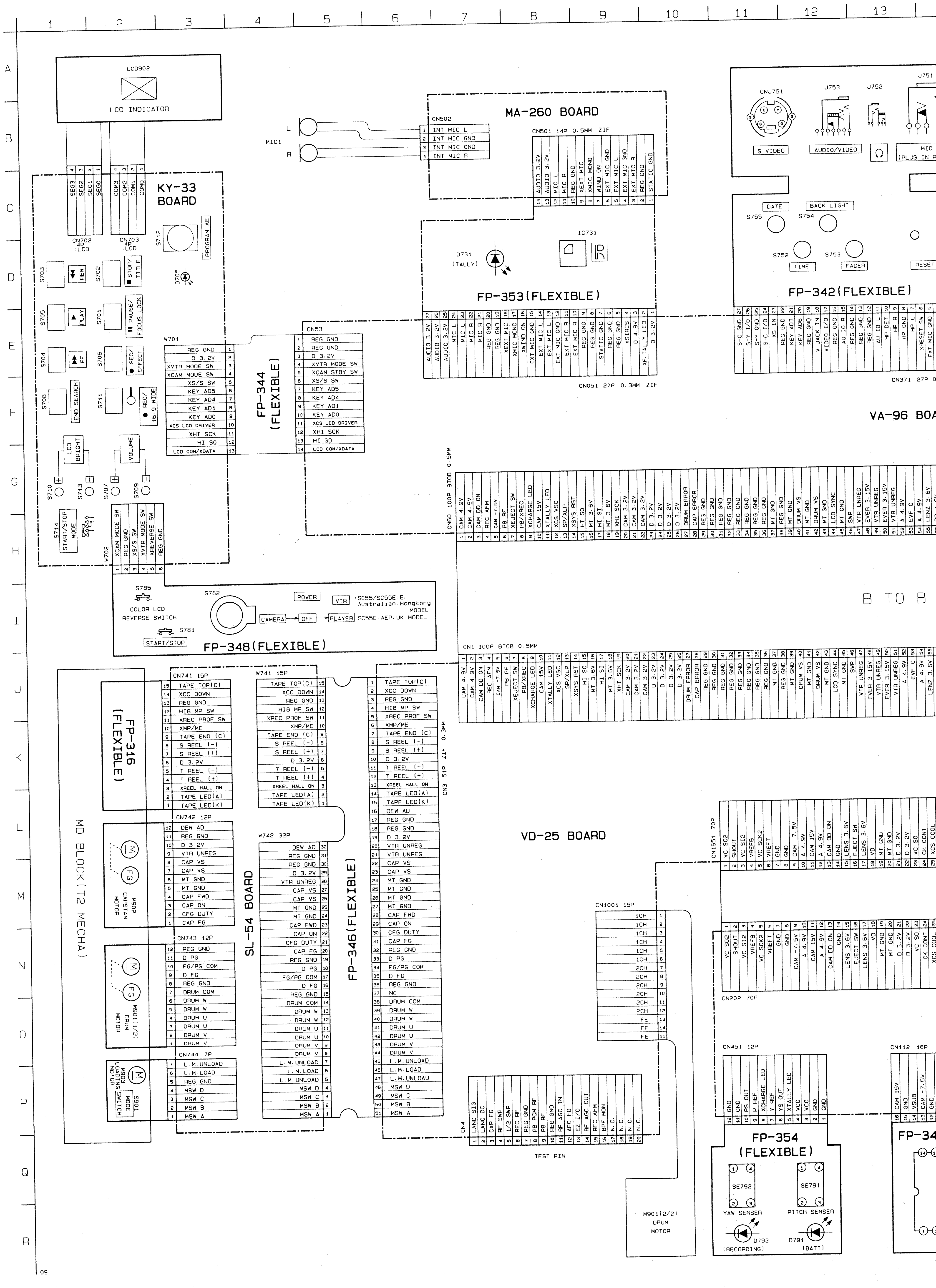

VA-96 BOARD
(SEE PAGE 4-59, 62, 65, 70, 74)
EN-18 BOARD
(SEE PAGE 4-74)
BATTERY TERMINAL
BT751
BATT +
BATT SIG
BATT -
RV901
ZOOM SW
CN752
CN751
CN059
FP-357 (FLEXIBLE)
(SEE PAGE 4-78)
CN721
26PIN MULTI CONNECTOR
BT721
LITHIUM BATTERY
CN723
CN372
ACV UNREG
V.C.
BATT/XEXT
XCHARGE INH
RFU DC OUT
LANC DC
LI 3V
LI GND
Q384, 385
LIMITER
Q383
ACV 6.5/X8.4
Q379, 380
IC371
Q371, Q373-377
BATTERY CHARGE CONTROL
XCHARGE
BATT REF
BATT SIG
IC1955
LANC I/O
UNREG
LANC DC
VCC
EEPROM
IC1954
Q1952, 1954, 1955, 1966
EVER 3.15V
D 3.2V
IC1951
INITIAL RESET BACKUP VCC
V BAT
VRD
V IN
V OUT
IC1952
MODE CONTROL
XVTR MODE SW
XCAM+STBY SW
BACKUP VCC
BATT REF
ACV 6.5/X8.4
BATT/XEXT
XCHARGE
BATT SI
BATT SO
VTR DD ON
LCD DD ON
CAM DD ON
IC372
REG
IF BLOCK
Q1959, 1963
PS004
PS003
PS001
PS002
BL UNREG
MT UNREG
VTR UNREG
VTR UNREG 2
IC110
DC/DC CONVERTER
OUTPUT1
FB1
STBY3
STBY
VCC
OUTPUT4
MOS GATE4
FB4
OUTPUT VCC13
OUTPUT3
FB3
CT
RT
COMP
OUTPUT VCC456
OUTPUT VCC2
OUTPUT2
FB2
L1501
L1503
L1502
Q1501
SWITCHING
L1504
MT 3.6V
Q1506
SWITCHING
L1506
Q1507
L201 A 3.2V
L202 D 3.2V
L205 CAM 3.2V
L207 AU 3.2V
Q1505
SWITCHING
T1503
D1501
L1509
Q1511
EMERGENCY DETECT
Q210, 211
REG
P 11V
Q216, 218
REG
CAM -7.5V
D200
RECT
Q207, 213
REG
P -18V
Q205, 206
REG
P -7.5V
Q204
SW
Q202
SW
Q1508
DRUM VS SWITCHING
Q1509
CAP VS SWITCHING
Q203
LCD DD ON
Q200, 201
P 4.9V
Q1502
SWITCHING
L1505
L200 RP 4.9V
L203 A 4.9V
L204 CAM 4.9V
L206 AU 4.9V
IC109
AUDIO PROCESS
IC600
AUDIO I/O SW
IC300
SPEAKER/HEADPHONE AMP
CN052
P 4.9V
D 3.2V
P 11V
P -7.5V
P -18V
BL UNREG
CN051
AUDIO 3.2V
D 4.9V
D 3.2V
IC731
REMOTE CONTROL RECEIVER
LCD
FP-353 (FLEXIBLE)
(SEE PAGE 4-97)
CN501
MIC AMP
IC501
MA-260 BOARD
(SEE PAGE 4-97)
(SEE PAGE 4-84)
KY-33 BOARD
D 3.2V
LED
IC701
LCD DRIVER
XVTR MODE SW
XCAM MODE SW
W701
W702
FP-348 (FLEXIBLE)
(SEE PAGE 4-84)
S782
POWER
VTR
PLAYER
OFF
CAMERA
:SC55/SC55E:E, Australian, Hongkong MODEL
:SC55E:AEP, UK MODEL
CN053
CN60
CN1
VTR UNREG
CAM DD ON
MT 3.6V
LENS 3.6V
A 3.2V
D 3.2V
CAM 3.2V
CAM 15V
EVER 3.15V
CAM -7.5V
RP 4.9V
A 4.9V
CAM 4.9V
LANC DC
CN4
(FOR CHECK)
CAM DD ON
CAM 15V
CAM -7.5V
Q16
IC252
ZOOM/FOCUS DRIVE
LENS 3.6V
D 3.2V
A 4.9V
CN202
CN1651
IC105
Y PROCESS
IC106
C PROCESS
IC116
EEPROM
IC129
VIDEO I/O AMP
IC117
VTR/CAMERA SERVO CONTROL
IC120
ATF SERVO
IC114
ZOOM TBC PROCESS
A/D CONVER
IC115
CNR PROCESS
CAMER Y/C PRO
IC101
REC/PB AMP
D/A CONV (EVR
09


CH-92 BOARD (SEE PAGE 4-13, 17, 19)
CAM DD ON
Q1601-1604
CAM 15V
CAM -7.5V
IC252
ZOOM/FOCUS DRIVE
LENS 3.6V
TIMING GENERATOR
IC202
IC251, 253
IRIS DRIVE, HALL AMP
IC252, 255
ZOOM/FOCUS DRIVE
IC453
A/D CONVERTER
D 3.2V
A 4.9V
IC203
S/H AGC
IC451-455
YAW/PITCH SENSOR AMP
CN202
CN112
CN251
CN451
W351
IC351
CCD IMAGER
FP-340 (FLEXIBLE)
(SEE PAGE 4-7)
DRIVE (+)
IRIS METER
LENS
LED
YAW/PITCH SENSOR
FP-354 (FLEXIBLE)
(SEE PAGE 4-9)
13 11 9 15-17 21-22 10-12
CN1651
D 3.2V
IC121
DRUM MOTER DRIVE
VTR UNREG
LOADING MOTER DRIVE SENSOR AMP
IC122
CN3
(SEE PAGE 4-81)
SL-54 BOARD
W741
W742
CN741
CN742
T2 MECHA
T.REEL S.REEL SENSOR
H001, 002
M902
CAPSTAN MOTOR
FP-346 (FLEXIBLE)
(SEE PAGE 4-82)
IC105
Y PROCESS
IC106
C PROCESS
IC102
MOD/DEMOD EMPH/DEEMPH D/A CONV
IC128
VIDEO SUB CODE
CN1001
L1002
L1001
VIDEO HEAD
IC116
EEPROM
IC129
VIDEO I/O AMP
IC104
CHARACTER GENERATOR
IC117
VTR/ CAMERA SERVO CONTROL
IC103
A/D CONVERTOR
IC601
VIDEO I/O SW
IC120
ATF SERVO
IC114
ZOOM TBC PROCESS
IC151
A/D CONVERTER
IC115
CNR PROCESS
IC152
CAMERA Y/C PROCESS
IC101
REC/PB AMP
IC108
D/A CONVERTER (EVR)
VD-25 BOARD
(SEE PAGE 4-26, 30, 33, 38, 40, 43, 47, 51, 52)
P 4.9V
D 3.2V
P 11V
P -7.5V
P -18V
BL UNREG
23-24 25 26 27-28 29 32-33-34
CN801
(SEE PAGE 4-91, 94)
PD-64 BOARD
IC761
LCD HOOD DETECTOR
FP-345 (FLEXIBLE)
(SEE PAGE 4-91)
CN991
IC804
D/A CONVERTER (EVR)
IC802
COM AMP
IC801
TIMING GENERATOR
IC805
RGB DECODER
Q952
IC951
DC/DC CONVERTER
Q956, T951
INVERTER D/A
CN951
BL.HIGH
BL001
BACK LIGHT
VGH
VGL
VSH
VSL
CN802
LCD901
LCD PANEL

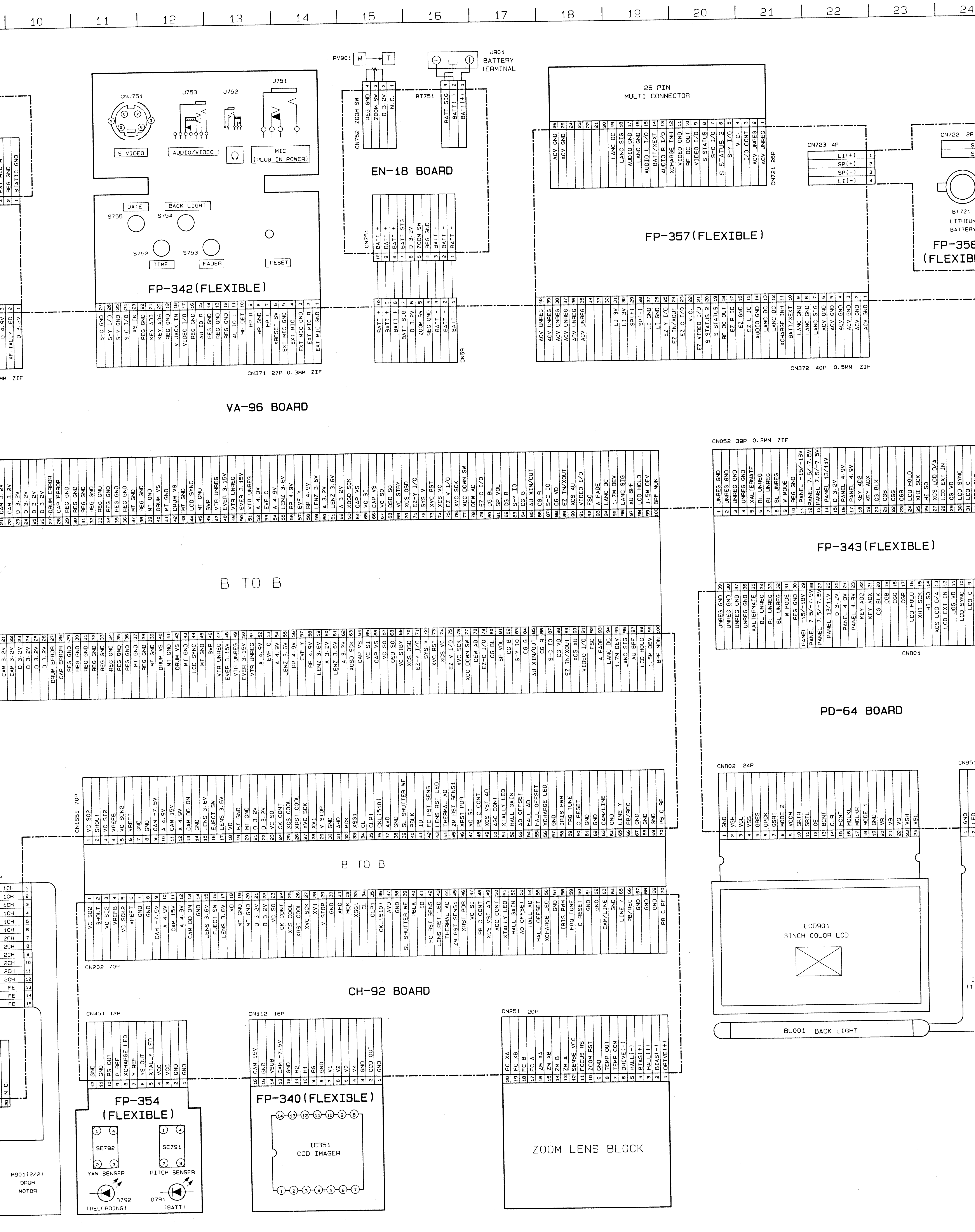
SECTION 4

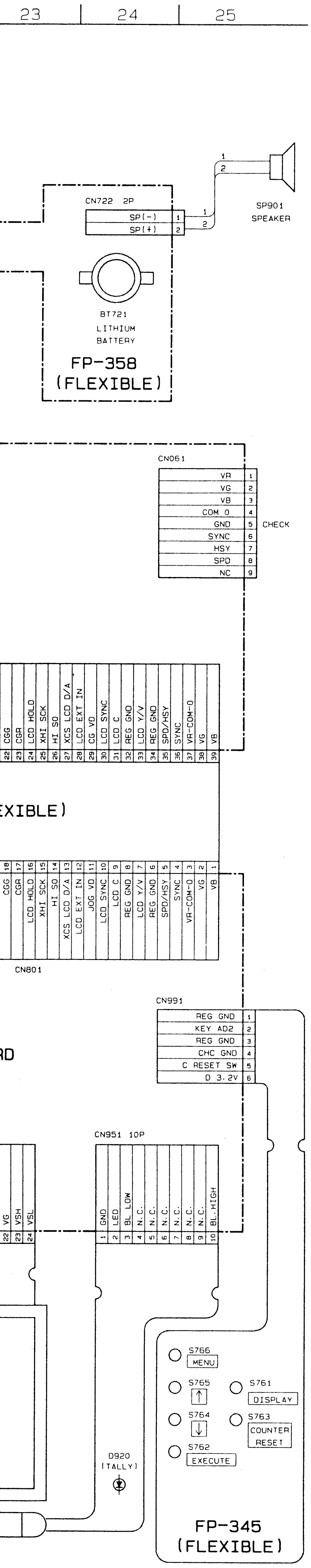
PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

4-1. FRAME SCHEMATIC DIAGRAM



LCD902
LCD INDICATOR
KY-33 BOARD
CN702 4P LCD
CN703 4P LCD
SEG3 SEG2 SEG1 SEG0
COM3 COM2 COM1 COM0
S712 PROGRAM AE
S703 REW
S702 STOP/TITLE
D705
S705 PLAY
S701 PAUSE/FOCUS LOCK
S704 FF
S706 REC/EFFECT
S708 END SEARCH
S711 REC/16:9 WIDE
LCD BRIGHT
VOLUME
S710 S713 S707 S709
S714 START/STOP MODE
W701
REG GND
D 3.2V
XVTR MODE SW
XCAM MODE SW
XS/S SW
KEY AD5
KEY AD4
KEY AD1
KEY AD0
XCS LCD DRIVER
XHI SCK
HI SO
LCD COM/XDATA
W702
XCAM MODE SW
REG GND
XS/S SW
XVTR MODE SW
XREVERSE SW
FP-344 (FLEXIBLE)
CN53
XCAM STBY SW
S785
COLOR LCD REVERSE SWITCH
S782
S781
START/STOP
POWER
VTR
CAMERA
OFF
PLAYER
:SC55/SC55E:E, Australian, Hongkong MODEL
:SC55E:AEP, UK MODEL
FP-348 (FLEXIBLE)
MIC1
L
R
CN502
INT MIC L
INT MIC GND
INT MIC R
MA-260 BOARD
CN501 14P 0.5MM ZIF
AUDIO 3.2V
MIC L
MIC R
REG GND
XEXT MIC
XMIC MONO
XWIND ON
EXT MIC GND
EXT MIC L
EXT MIC R
STATIC GND
IC731
D731 (TALLY)
FP-353 (FLEXIBLE)
CN051 27P 0.3MM ZIF
XSIRCS
D 4.9V
XF TALLY LED
D 3.2V
CNJ751
J753
J752
J751
S VIDEO
AUDIO/VIDEO
MIC (PLUG IN P
DATE
BACK LIGHT
S755
S754
S752
S753
TIME
FADER
RESET
FP-342 (FLEXIBLE)
CN371 27P
VA-96 BOA
CN60 100P BTOB 0.5MM
CAM 4.9V
CAM DD ON
REC AFM
CAM -7.5V
PB RF
XEJECT SW
PB/XREC
XCHARGE LED
CAM 15V
XTALLY LED
XCS VSC
SP/XLP
XSYS RST
HI SO
MT 3.6V
HI SI
XHI SCK
CAM 3.2V
D 3.2V
DRUM ERROR
CAP ERROR
REG GND
MT GND
DRUM VS
LCD SYNC
SWP
VTR UNREG
EVER 3.15V
A 4.9V
EVF C
LENZ 3.6V
B TO B
CN1 100P BTOB 0.5MM
VD-25 BOARD
CN3 51P ZIF 0.3MM
CN1651 70P
VC SO2
SHOUT
VC SI2
VREFB
VC SCK2
VREFT
GND
CAM -7.5V
A 4.9V
CAM 15V
CAM DD ON
LENS 3.6V
EJECT SW
VD
MT GND
D 3.2V
VC SO
CK CONT
XCS COOL
CN202 70P
CN1001 15P
1CH
2CH
FE
CN4
LANC SIG
LANC DC
CAP FG
RF SWP
1/2 SWP
REC RF
REG GND
PB PCM RF
PB RF
RF AGC IN
AFC FO
EZ I/O
RF AGC OUT
REC AFM
BPF MON
N.C.
TEST PIN
M901(2/2) DRUM MOTOR
CN451 12P
PS OUT
P REF
XCHARGE LED
Y REF
YS OUT
XTALLY LED
VCC
FP-354 (FLEXIBLE)
SE792
SE791
YAW SENSER
PITCH SENSER
D792 (RECORDING)
D791 (BATT)
CN112 16P
VSUB
FP-34
MD BLOCK (T2 MECHA)
FP-316 (FLEXIBLE)
CN741 15P
TAPE TOP(C)
XCC DOWN
HI8 MP SW
XREC PROF SW
XMP/ME
TAPE END (C)
S REEL (-)
S REEL (+)
D 3.2V
T REEL (-)
T REEL (+)
XREEL HALL ON
TAPE LED(A)
TAPE LED(K)
CN742 12P
DEW AD
VTR UNREG
CAP VS
CAP FWD
CAP ON
CFG DUTY
CAP FG
M902 CAPSTAN MOTOR
CN743 12P
D PG
FG/PG COM
D FG
DRUM COM
DRUM W
DRUM U
DRUM V
M901(1/2) DRUM MOTOR
CN744 7P
L.M. UNLOAD
L.M. LOAD
MSW D
MSW C
MSW B
MSW A
M903 LOADING MOTOR
S901 MODE SWITCH
W741 15P
W742 32P
SL-54 BOARD
FP-346 (FLEXIBLE)
NC
09


10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
RV901
J901 BATTERY TERMINAL
CNJ751
J753
J752
J751
S VIDEO
AUDIO/VIDEO
MIC (PLUG IN POWER)
DATE
BACK LIGHT
S755
S754
S752
S753
TIME
FADER
RESET
FP-342(FLEXIBLE)
CN371 27P 0.3MM ZIF
BT751
CN752
EN-18 BOARD
CN751
CN59
26 PIN MULTI CONNECTOR
CN721 26P
CN723 4P
LI(+)
SP(+)
SP(-)
LI(-)
FP-357(FLEXIBLE)
CN372 40P 0.5MM ZIF
CN722 2P
BT721 LITHIUM BATTERY
FP-358 (FLEXIBLE)
VA-96 BOARD
CN052 39P 0.3MM ZIF
B TO B
FP-343(FLEXIBLE)
CN801
PD-64 BOARD
CN1651 70P
B TO B
CN202 70P
CN802 24P
LCD901 3INCH COLOR LCD
CH-92 BOARD
BL001 BACK LIGHT
CN451 12P
CN112 16P
CN251 20P
FP-354 (FLEXIBLE)
SE792
SE791
YAW SENSER
PITCH SENSER
D792 (RECORDING)
D791 (BATT)
FP-340(FLEXIBLE)
IC351 CCD IMAGER
ZOOM LENS BLOCK
M901(2/2) DRUM MOTOR


23
24
25
CN722 2P
SP(-) 1
SP(+) 2
SP901
SPEAKER
BT721
LITHIUM
BATTERY
FP-358
(FLEXIBLE)
CN061
VR 1
VG 2
VB 3
COM 0 4
GND 5
SYNC 6
HSY 7
SPD 8
NC 9
CHECK
22 CGG
23 CGR
24 LCD HOLD
25 XHI SCK
26 HI SO
27 XCS LCD D/A
28 LCD EXT IN
29 CG VD
30 LCD SYNC
31 LCD C
32 REG GND
33 LCD Y/V
34 REG GND
35 SPD/HSY
36 SYNC
37 VR-COM-0
38 VG
39 VB
EXIBLE)
CGG 18
CGR 17
LCD HOLD 16
XHI SCK 15
HI SO 14
XCS LCD D/A 13
LCD EXT IN 12
JOG VD 11
LCD SYNC 10
LCD C 9
REG GND 8
LCD Y/V 7
REG GND 6
SPD/HSY 5
SYNC 4
VR-COM-0 3
VG 2
VB 1
CN801
CN991
REG GND 1
KEY AD2 2
REG GND 3
CHC GND 4
C RESET SW 5
D 3.2V 6
RD
22 VG
23 VSH
24 VSL
CN951 10P
1 GND
2 LED
3 BL LOW
4 N.C.
5 N.C.
6 N.C.
7 N.C.
8 N.C.
9 N.C.
10 BL HIGH
S766
MENU
S765
↑
S761
DISPLAY
S764
↓
S763
COUNTER
RESET
S762
EXECUTE
D920
(TALLY)
FP-345
(FLEXIBLE)

4-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this , the necessary note is printed in each block.)

- **For printed wiring boards.**
- ▨ : Pattern from the side which enables seeing.
  (The other layers'patterns are not indicated.)
- Circled numbers refer to waveforms.
- ○: Through hole is omitted.

* Caution:	
Pattern face side: (Side B)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Sde A)	Parts on the parts face side seen from the parts face are indicated.

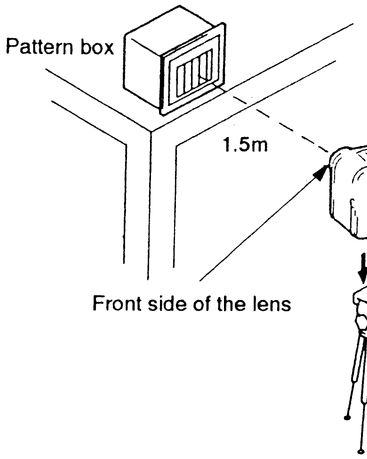
- **For schematic diagrams.**
- Caution when replacing chip parts.
  New parts must be attached after removal of chip.
  Be careful not to heat the minus side of tantalum capacitor, because it is damaged by the heat.
- All resistors are in ohms, 1/4W unless otherwise noted.
  Chip resistor are 1/10W unless otherwise noted.
  kΩ : 1000Ω , MΩ : 1000kΩ .
- All capacitors are in μF unless otherwise noted. pF: μμF.
  50V or less are not indicated except for electrolytics and tantalums.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ▭ : panel designation.
- △ : internal component.
- ▭ : adjustment for repair.
- ——— : B+ Line.
- - - - : B– Line.
- ⇨ : IN/OUT direction of (+, –) B LINE.
- Circled numbers refer to waveforms.

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safty. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

- **Measuring conditions voltage value and waveform. (CAMERA REC mode)**
- The object is color bar chart of pattern box.
- Voltages are dc between ground and measurement points. Readings are taken with a digital multimeter (DC 10MΩ).
- Voltage variations may be noted due to normal production tolerances.

1. Connection


Pattern box
1.5m
Front side of the lens

2. Adjust the distance so that the output waveform of Fig. a and the Fig. b can be obtain.

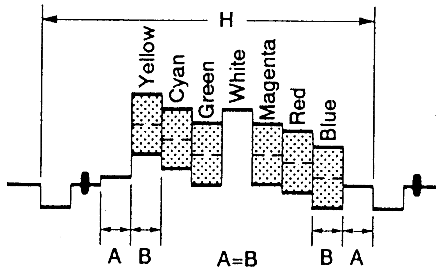

H
Yellow
Cyan
Green
White
Magenta
Red
Blue
A
B
A=B
B
A

Fig. a (Video output terminal output waveform)

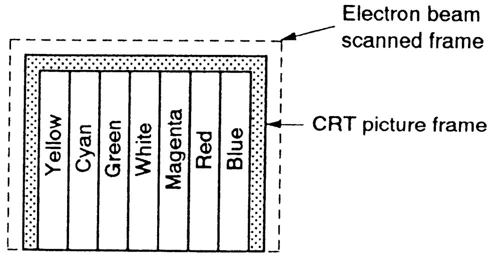

Electron beam scanned frame
CRT picture frame
Yellow
Cyan
Green
White
Magenta
Red
Blue

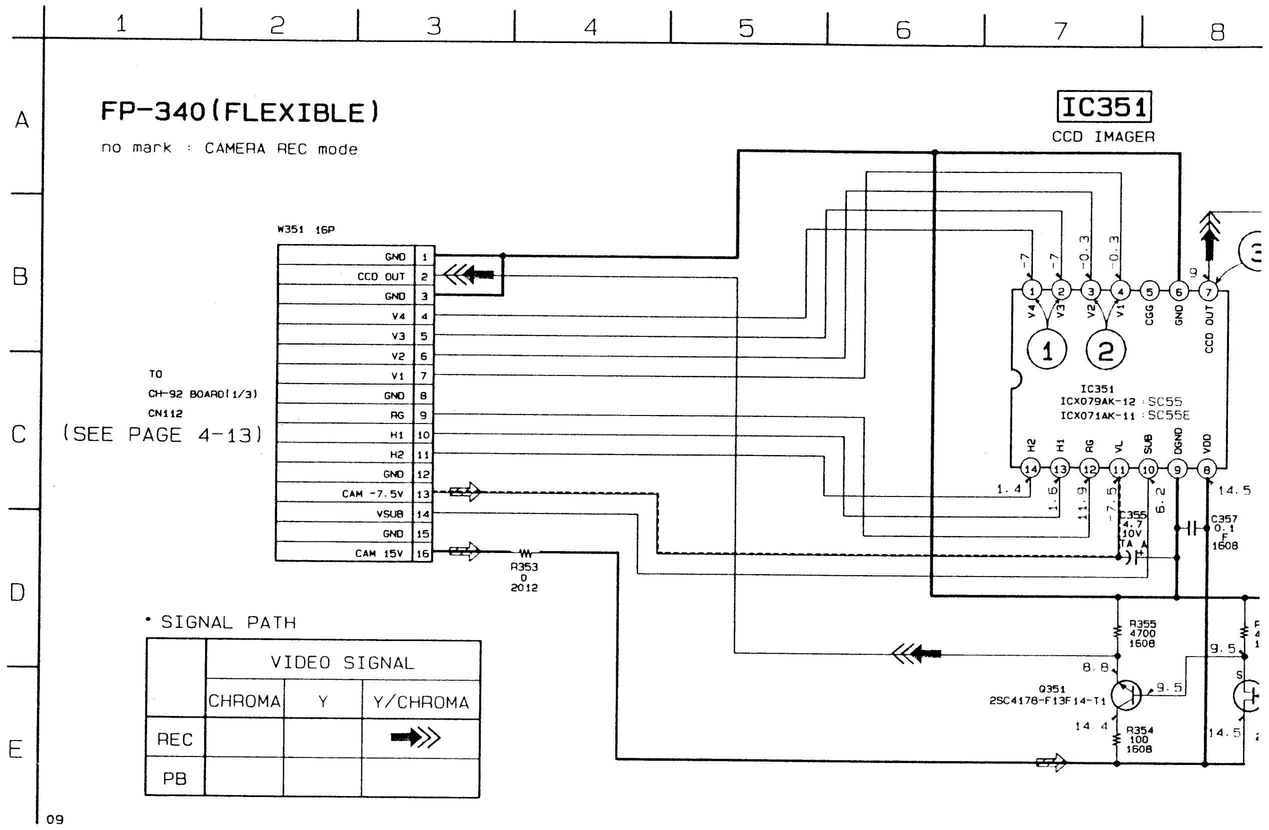
Fig. b (Picture on monitor TV)

(REC/PB mode)
- Voltages are dc between ground and measurement points.
- Readings are taken with a color-bar signal input.
- Readings are taken with a digital multimeter (DC10MΩ).
- Voltage variations may be noted due to normal production tolerances.

(AEP, UK model)

Note: Refer "3-1-6. How to set the REC mode in the model without REC switch" in VIDEO SECTION ADJUSTMENT. (See page 6–42)

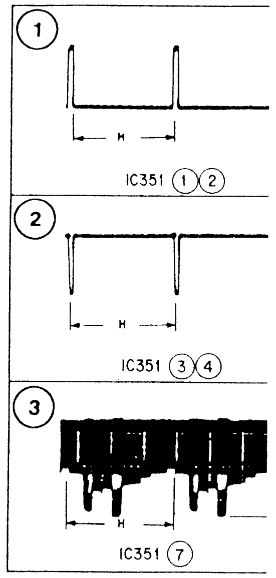
FP-340 (CCD IMAGER) SCHEMATIC DIAGRAM
— Ref No. FP-340 BOARD: 1,000 series —


1
2
3
4
5
6
7
8
A
B
C
D
E
FP-340(FLEXIBLE)
no mark : CAMERA REC mode
W351 16P
GND 1
CCD OUT 2
GND 3
V4 4
V3 5
V2 6
V1 7
GND 8
RG 9
H1 10
H2 11
GND 12
CAM -7.5V 13
VSUB 14
GND 15
CAM 15V 16
TO
CH-92 BOARD(1/3)
CN112
(SEE PAGE 4-13)
R353
0
2012
IC351
CCD IMAGER
V4
V3
V2
V1
CGG
GND
CCD OUT
H2
H1
RG
VL
SUB
DGND
VDD
IC351
ICX079AK-12 : SC55
ICX071AK-11 : SC55E
-7
-7
-0.3
-0.3
9
1.4
1.6
11.9
-7.5
6.2
14.5
C355
4.7
10V
TA A
C357
0.1
F
1608
R355
4700
1608
8.8
9.5
9.5
Q351
2SC4178-F13F14-T1
14.4
R354
100
1608
14.5
09

• SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC			⇛
PB			

FP-340 BOARD CAM



RINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
note Is printed In each block.)

ted.)

n face side seen from
indicated.

ace side seen from the
ated.

al of chip.
of tantalum capacitor,

herwise noted.
e noted.

e noted. pF: μμF.
t for electrolytics and

e characteristic curve B,

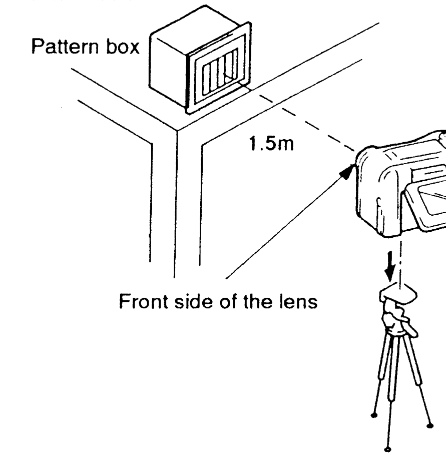
E.

ants identifiés par
⚠ sont critiques
é.
acer que par une
le numéro spéci-

• Measuring conditions voltage value and waveform. (CAMERA REC mode)

- The object is color bar chart of pattern box.
- Voltages are dc between ground and measurement points. Readings are taken with a digital multimeter (DC 10MΩ).
- Voltage variations may be noted due to normal production tolerances.

1. Connection


Pattern box
1.5m
Front side of the lens

2. Adjust the distance so that the output waveform of Fig. a and the Fig. b can be obtain.

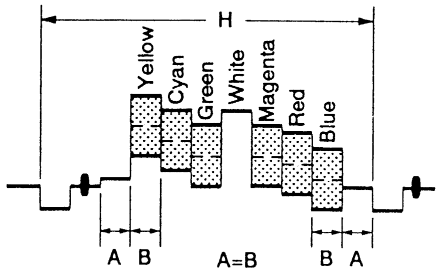

H
Yellow
Cyan
Green
White
Magenta
Red
Blue
A
B
A=B
B
A

Fig. a (Video output terminal output waveform)

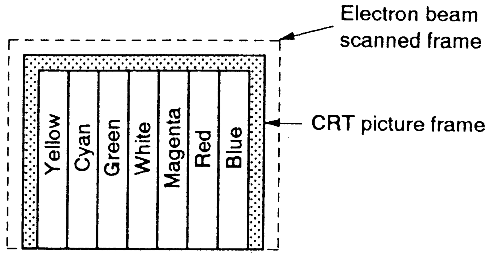

Electron beam scanned frame
CRT picture frame
Yellow
Cyan
Green
White
Magenta
Red
Blue

Fig. b (Picture on monitor TV)

(REC/PB mode)

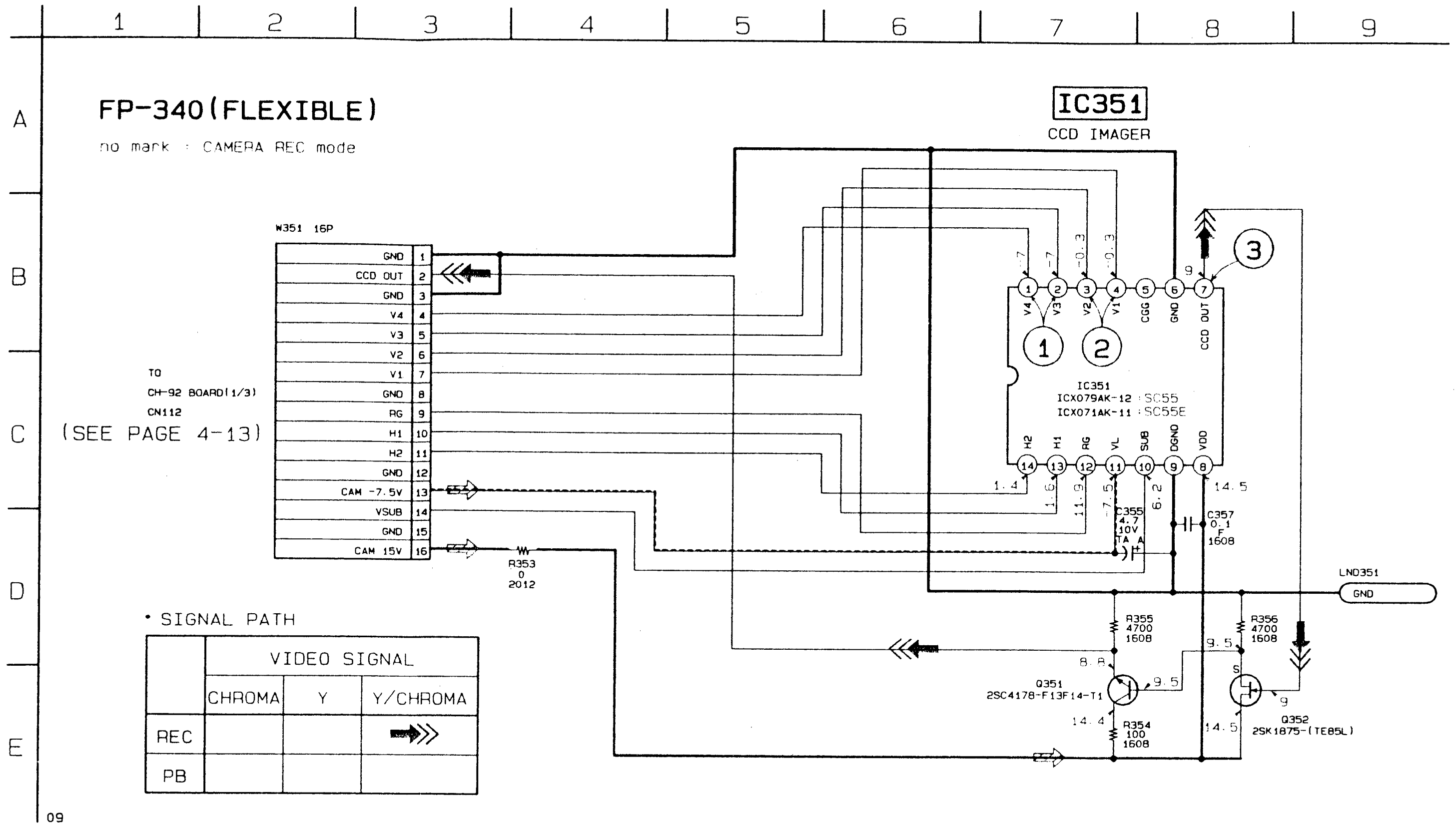
- Voltages are dc between ground and measurement points.
- Readings are taken with a color-bar signal input.
- Readings are taken with a digital multimeter (DC10MΩ).
- Voltage variations may be noted due to normal production tolerances.

(AEP, UK model)

Note: Refer "3-1-6. How to set the REC mode in the model without REC switch" in VIDEO SECTION ADJUSTMENT. (See page 6-42)

FP-340 (CCD IMAGER) SCHEMATIC DIAGRAM

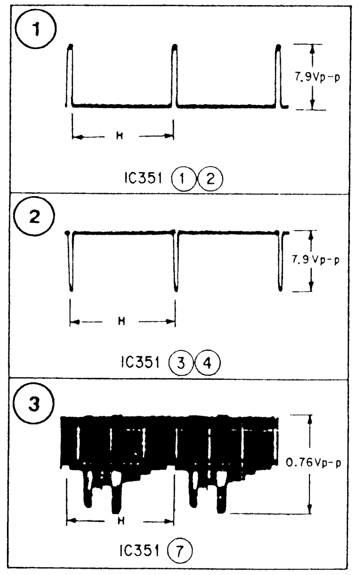
— Ref No. FP-340 BOARD: 1,000 series —

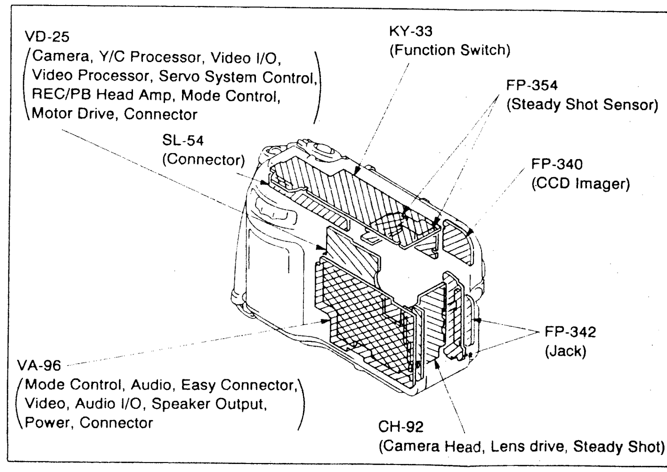

1
2
3
4
5
6
7
8
9
A
B
C
D
E
FP-340(FLEXIBLE)
no mark : CAMERA REC mode
W351 16P
GND 1
CCD OUT 2
GND 3
V4 4
V3 5
V2 6
V1 7
GND 8
RG 9
H1 10
H2 11
GND 12
CAM -7.5V 13
VSUB 14
GND 15
CAM 15V 16
TO
CH-92 BOARD(1/3)
CN112
(SEE PAGE 4-13)
R353
0
2012
IC351
CCD IMAGER
IC351
ICX079AK-12 : SC55
ICX071AK-11 : SC55E
V4
V3
V2
V1
CGG
GND
CCD OUT
H2
H1
RG
VL
SUB
DGND
VDD
①
②
③
-7
-7
-0.3
-0.3
9
1.4
1.6
11.9
-7.5
6.2
14.5
C355
4.7
10V
TA A
C357
0.1
F
1608
LND351
GND
R355
4700
1608
R356
4700
1608
8.8
9.5
9.5
Q351
2SC4178-F13F14-T1
14.4
R354
100
1608
14.5
S
9
Q352
2SK1875-(TE85L)
09

• SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC			➡》
PB			

FP-340 BOARD CAMERA REC



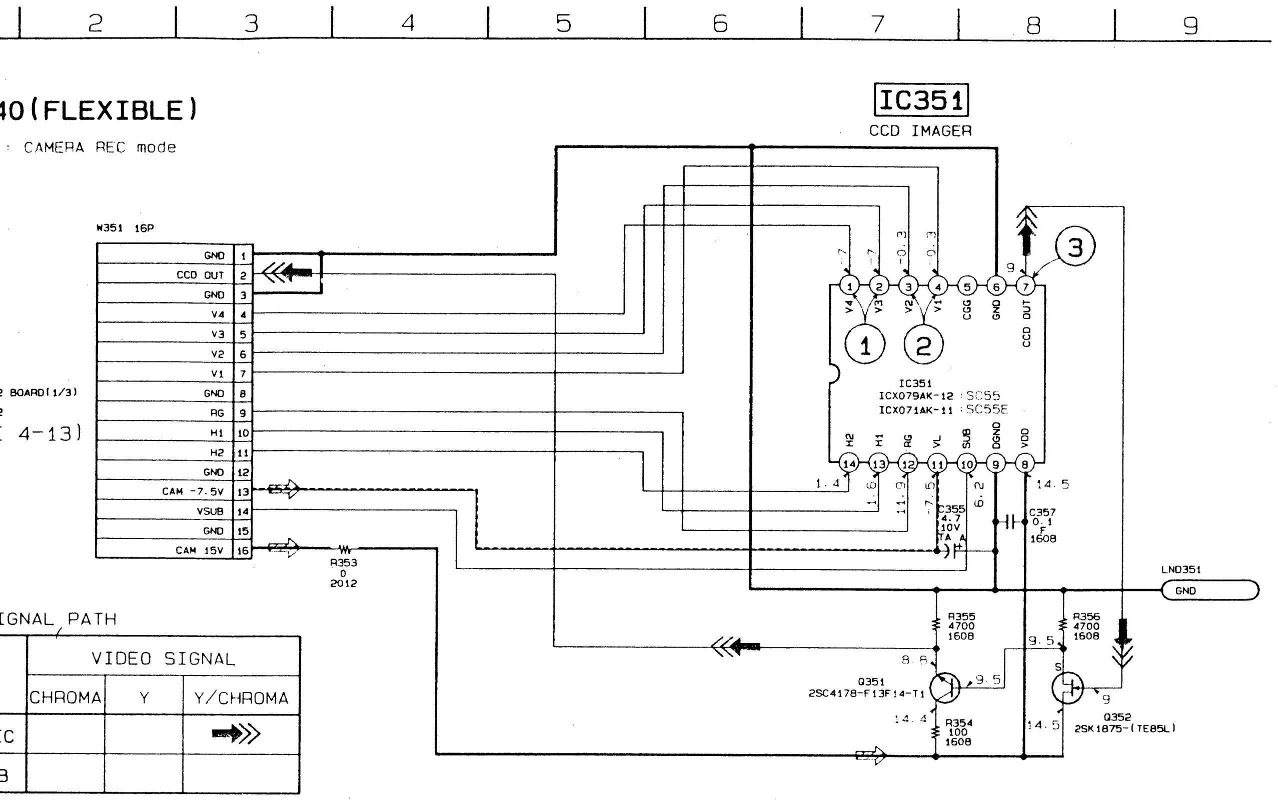

VD-25
(Camera, Y/C Processor, Video I/O, Video Processor, Servo System Control, REC/PB Head Amp, Mode Control, Motor Drive, Connector)
KY-33
(Function Switch)
FP-354
(Steady Shot Sensor)
SL-54
(Connector)
FP-340
(CCD Imager)
FP-342
(Jack)
VA-96
(Mode Control, Audio, Easy Connector, Video, Audio I/O, Speaker Output, Power, Connector)
CH-92
(Camera Head, Lens drive, Steady Shot)

FP-340 (CCD IMA

-- Ref No. FP-340 BOA

IMAGER) SCHEMATIC DIAGRAM

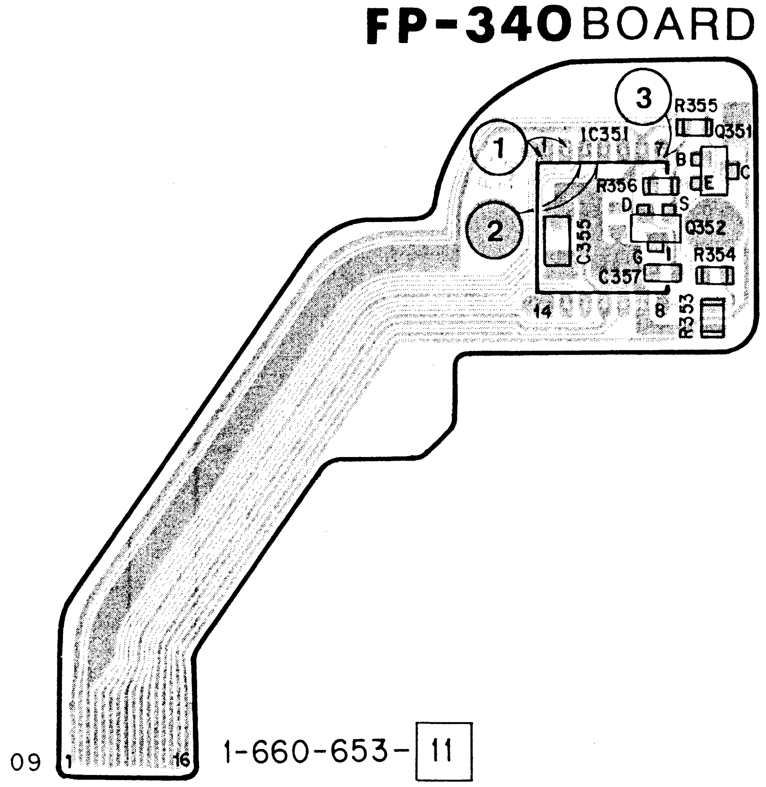
BOARD: 1,000 series —


2
3
4
5
6
7
8
9
40 (FLEXIBLE)
: CAMERA REC mode
IC351
CCD IMAGER
IC351
ICX079AK-12 : SC55
ICX071AK-11 : SC55E
CN351 16P
GND
CCD OUT
GND
V4
V3
V2
V1
GND
RG
H1
H2
GND
CAM -7.5V
VSUB
GND
CAM 15V
BOARD(1/3)
4-13)
R353
0
2012
C355
4.7
10V
C357
0.1
1608
LND351
GND
R355
4700
1608
R356
4700
1608
Q351
2SC4178-F13F14-T1
R354
100
1608
Q352
2SK1875-(TE85L)
SIGNAL PATH

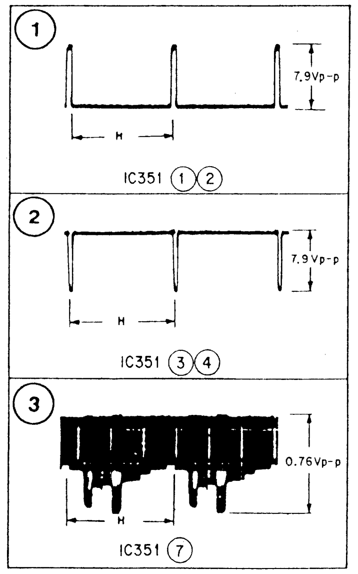
	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
C			➡
B			

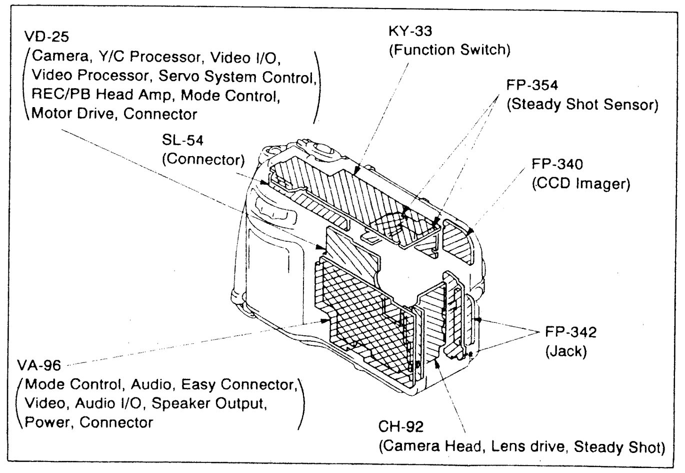
FP-340 (CCD IMAGER) PRINTED WIRING BOARD

-- Ref No. FP-340 BOARD: 1,000 series —


FP-340 BOARD
IC351
R355
Q351
R356
Q352
R354
C355
C357
R353
1
2
3
14
8
09
1-660-653-11

FP-340 BOARD CAMERA REC



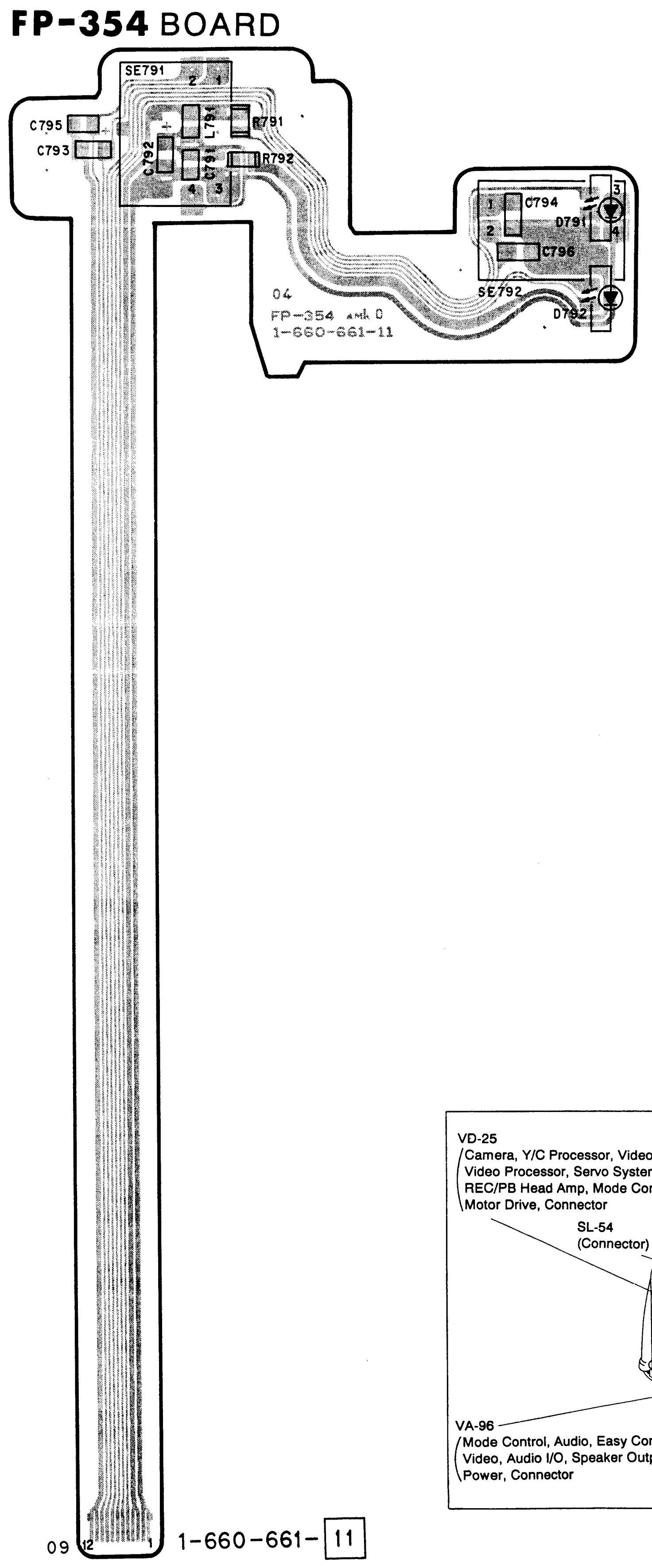

VD-25
(Camera, Y/C Processor, Video I/O, Video Processor, Servo System Control, REC/PB Head Amp, Mode Control, Motor Drive, Connector)
KY-33
(Function Switch)
FP-354
(Steady Shot Sensor)
SL-54
(Connector)
FP-340
(CCD Imager)
FP-342
(Jack)
VA-96
(Mode Control, Audio, Easy Connector, Video, Audio I/O, Speaker Output, Power, Connector)
CH-92
(Camera Head, Lens drive, Steady Shot)

Note on the CCD Imager replacement

- The CCD imager is not mounted for the already FP-340 board supplied as the repair parts.
  When replacing the FP-340 board, remove the CCI from the old board and install on the new board.
- Perform all adjustments of the camera block when imager has been replaced.
- Handle the CCD imager with attention such as MOS may be broken by static electricity in the structure.
  Also, prevent the receiving light section from dust and strong light.

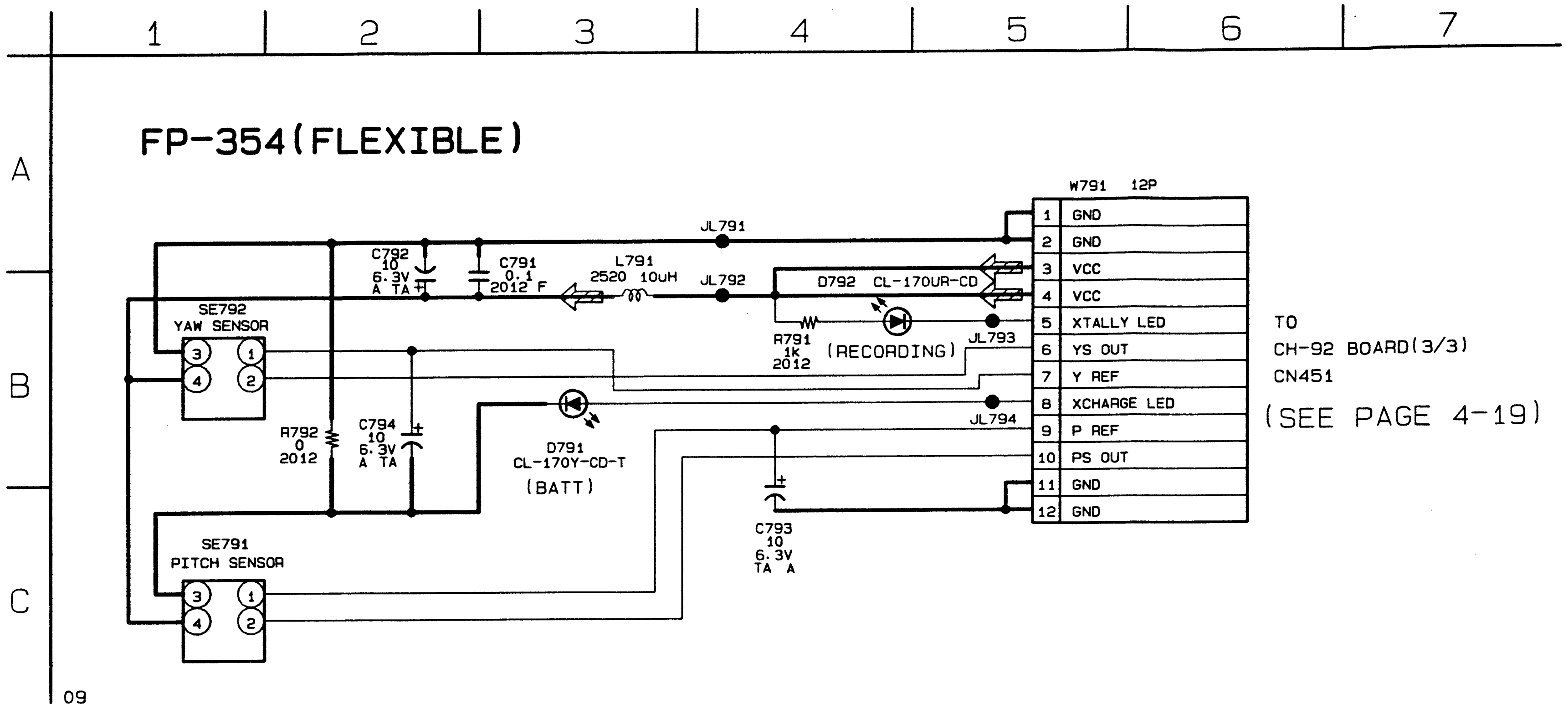
FP-354 (STEADY SHOT SENSOR) PRINTED WIRING BOARD

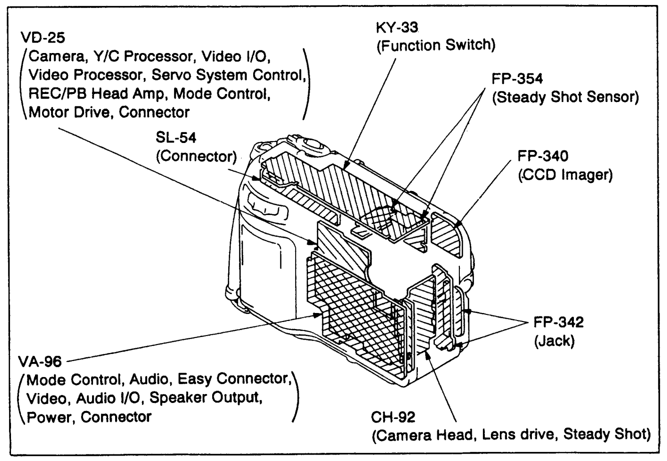
— Ref No. FP-354 BOARD: 1,000 series —


FP-354 BOARD
SE791
C795
C793
C792
L791
C791
R791
R792
C794
D791
C796
SE792
D792
04
FP-354
1-660-661-11
09
12
1
1-660-661-11

FP-354 (STEADY SHOT SENSOR) SCHEMATIC DIAGRAM

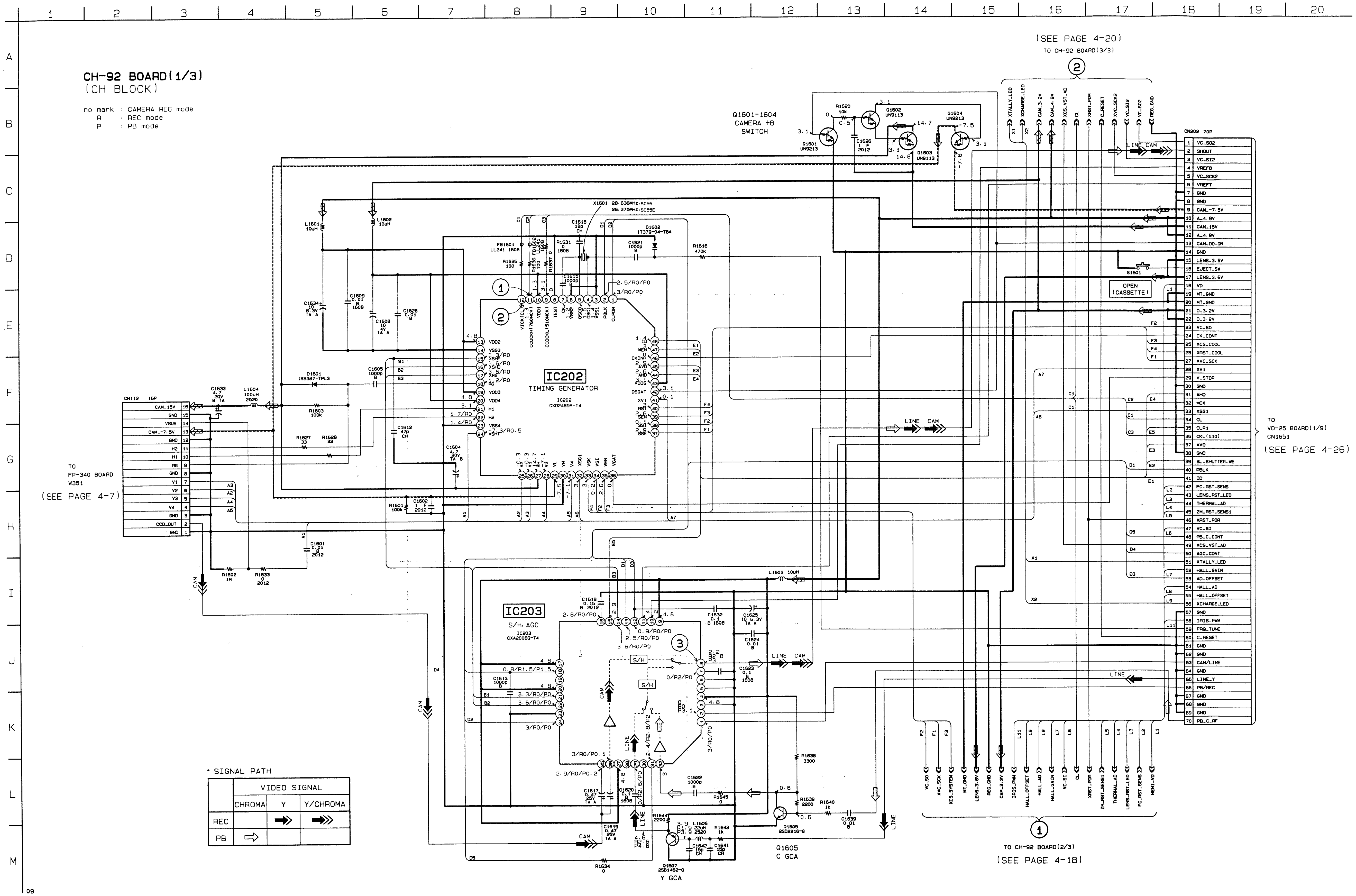
— Ref No. FP-354 BOARD: 1,000 series —


1
2
3
4
5
6
7
A
B
C
FP-354(FLEXIBLE)
W791 12P
1 GND
2 GND
3 VCC
4 VCC
5 XTALLY LED
6 YS OUT
7 Y REF
8 XCHARGE LED
9 P REF
10 PS OUT
11 GND
12 GND
TO
CH-92 BOARD(3/3)
CN451
(SEE PAGE 4-19)
JL791
JL792
JL793
JL794
C792 10 6.3V A TA
C791 0.1 2012 F
L791 2520 10uH
D792 CL-170UR-CD
R791 1k 2012
(RECORDING)
SE792
YAW SENSOR
R792 0 2012
C794 10 6.3V A TA
D791 CL-170Y-CD-T
(BATT)
C793 10 6.3V TA A
SE791
PITCH SENSOR
09


VD-25
(Camera, Y/C Processor, Video I/O, Video Processor, Servo System Control, REC/PB Head Amp, Mode Control, Motor Drive, Connector)
KY-33
(Function Switch)
FP-354
(Steady Shot Sensor)
SL-54
(Connector)
FP-340
(CCD Imager)
FP-342
(Jack)
VA-96
(Mode Control, Audio, Easy Connector, Video, Audio I/O, Speaker Output, Power, Connector)
CH-92
(Camera Head, Lens drive, Steady Shot)

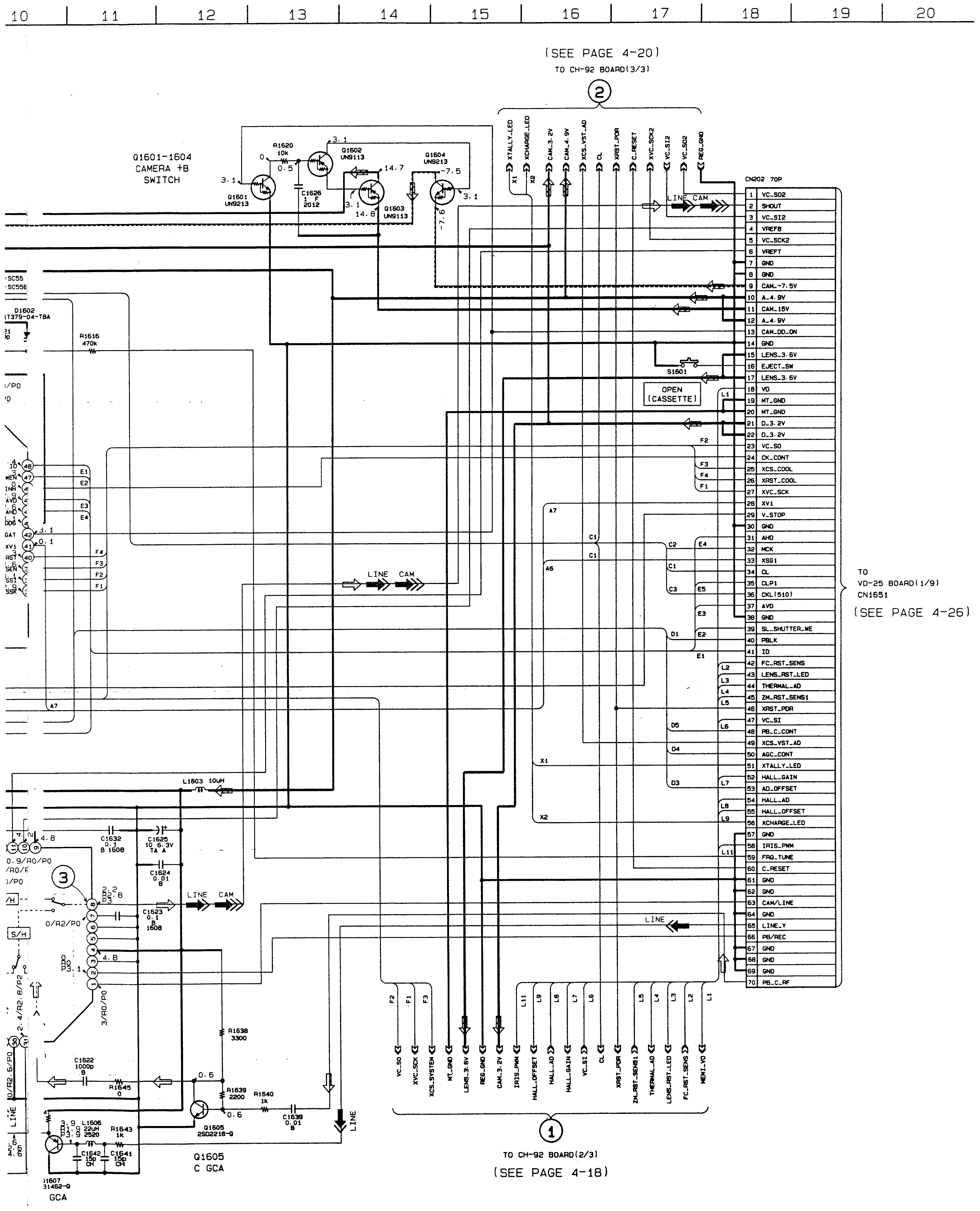
CH-92 (CAMERA HEAD) SCHEMATIC DIAGRAM

— Ref No. CH-92 BOARD: 1,000 series —

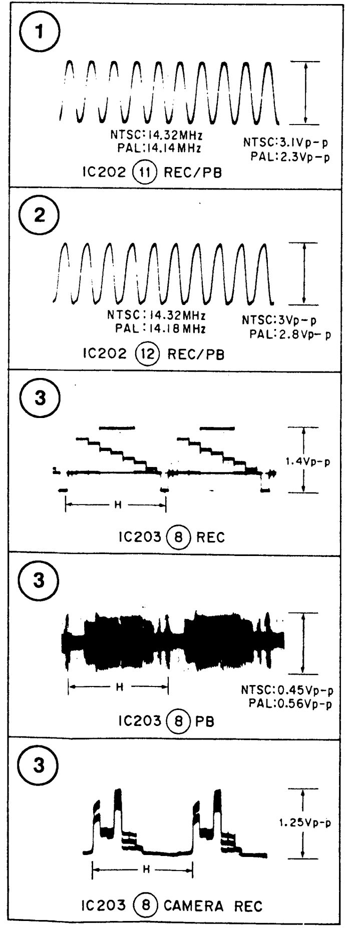

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
A B C D E F G H I J K L M
CH-92 BOARD(1/3)
(CH BLOCK)
no mark : CAMERA REC mode
R : REC mode
P : PB mode
Q1601-1604
CAMERA +8
SWITCH
IC202
TIMING GENERATOR
IC202
CXD2485R-T4
IC203
S/H. AGC
IC203
CXA2006Q-T4
X1601 28.636MHz:SC55
28.375MHz:SC55E
D1602
1T379-04-TBA
D1601
1SS387-TPL3
Q1605
C GCA
Q1607
2SB1462-Q
Y GCA
S1601
OPEN
(CASSETTE)
CN112 16P
CAM_15V 16
GND 15
VSUB 14
CAM_-7.5V 13
GND 12
H2 11
H1 10
RG 9
GND 8
V1 7
V2 6
V3 5
V4 4
GND 3
CCD_OUT 2
GND 1
TO
FP-340 BOARD
W351
(SEE PAGE 4-7)
(SEE PAGE 4-20)
TO CH-92 BOARD(3/3)
②
XTALLY_LED
XCHARGE_LED
CAM_3.2V
CAM_4.9V
XCS_VST_AD
CL
XRST_POR
C_RESET
XVC_SCK2
VC_SI2
VC_SO2
REG_GND
CN202 70P
1 VC_SO2
2 SHOUT
3 VC_SI2
4 VREFB
5 VC_SCK2
6 VREFT
7 GND
8 GND
9 CAM_-7.5V
10 A_4.9V
11 CAM_15V
12 A_4.9V
13 CAM_DD_ON
14 GND
15 LENS_3.6V
16 EJECT_SW
17 LENS_3.6V
18 VD
19 MT_GND
20 MT_GND
21 D_3.2V
22 D_3.2V
23 VC_SO
24 CK_CONT
25 XCS_COOL
26 XRST_COOL
27 XVC_SCK
28 XV1
29 V_STOP
30 GND
31 AHD
32 MCK
33 XSG1
34 CL
35 CLP1
36 CKL(510)
37 AVD
38 GND
39 SL_SHUTTER_WE
40 PBLK
41 ID
42 FC_RST_SENS
43 LENS_RST_LED
44 THERMAL_AD
45 ZM_RST_SENS1
46 XRST_POR
47 VC_SI
48 PB_C_CONT
49 XCS_VST_AD
50 AGC_CONT
51 XTALLY_LED
52 HALL_GAIN
53 AD_OFFSET
54 HALL_AD
55 HALL_OFFSET
56 XCHARGE_LED
57 GND
58 IRIS_PWM
59 FRQ_TUNE
60 C_RESET
61 GND
62 GND
63 CAM/LINE
64 GND
65 LINE_Y
66 PB/REC
67 GND
68 GND
69 GND
70 PB_C_RF
TO
VD-25 BOARD(1/9)
CN1651
(SEE PAGE 4-26)
VC_SO
XVC_SCK
XCS_SYSTEM
MT_GND
LENS_3.6V
REG_GND
CAM_3.2V
IRIS_PWM
HALL_OFFSET
HALL_AD
HALL_GAIN
VC_SI
CL
XRST_POR
ZM_RST_SENS1
THERMAL_AD
LENS_RST_LED
FC_RST_SENS
MEMI_VD
①
TO CH-92 BOARD(2/3)
(SEE PAGE 4-18)
LINE CAM
CAM
LINE
S/H
09

• SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC		➡	➡》
PB	⇨		


10
11
12
13
14
15
16
17
18
19
20
(SEE PAGE 4-20)
TO CH-92 BOARD(3/3)
②
XTALLY_LED
XCHARGE_LED
CAM_3.2V
CAM_4.9V
XCS_VST_AD
CL
XRST_PDR
C_RESET
XVC_SCK2
VC_SI2
VC_SO2
REG_GND
X1
X2
Q1601-1604
CAMERA +B
SWITCH
R1620
10k
Q1601
UN9213
Q1602
UN9113
Q1603
UN9113
Q1604
UN9213
C1526
1 F
2012
3.1
0
0.5
14.7
14.8
-7.5
-7.6
LINE
CAM
CN202 70P
1 VC_SO2
2 SHOUT
3 VC_SI2
4 VREFB
5 VC_SCK2
6 VREFT
7 GND
8 GND
9 CAM_-7.5V
10 A_4.9V
11 CAM_15V
12 A_4.9V
13 CAM_DD_ON
14 GND
15 LENS_3.6V
16 EJECT_SW
17 LENS_3.6V
18 VD
19 MT_GND
20 MT_GND
21 D_3.2V
22 D_3.2V
23 VC_SO
24 CK_CONT
25 XCS_COOL
26 XRST_COOL
27 XVC_SCK
28 XV1
29 V_STOP
30 GND
31 AHD
32 MCK
33 XSG1
34 CL
35 CLP1
36 CKL(510)
37 AVD
38 GND
39 SL_SHUTTER_WE
40 PBLK
41 ID
42 FC_RST_SENS
43 LENS_RST_LED
44 THERMAL_AD
45 ZM_RST_SENS1
46 XRST_PDR
47 VC_SI
48 PB_C_CONT
49 XCS_VST_AD
50 AGC_CONT
51 XTALLY_LED
52 HALL_GAIN
53 AD_OFFSET
54 HALL_AD
55 HALL_OFFSET
56 XCHARGE_LED
57 GND
58 IRIS_PWM
59 FRQ_TUNE
60 C_RESET
61 GND
62 GND
63 CAM/LINE
64 GND
65 LINE_Y
66 PB/REC
67 GND
68 GND
69 GND
70 PB_C_RF
TO
VD-25 BOARD(1/9)
CN1651
(SEE PAGE 4-26)
S1601
OPEN
(CASSETTE)
D1602
R1616
470k
L1603 10uH
C1632
0.1
B 1608
C1625
10 6.3V
TA A
C1624
0.01
B
C1623
0.1
B
1608
③
S/H
0.9/R0/P0
0/R2/P0
3/R0/P0
2.4/R2.8/P2
4.8
R1638
3300
C1622
1000p
B
R1645
0
R1639
2200
R1640
1k
C1639
0.01
B
0.6
Q1605
2SD2216-Q
Q1605
C GCA
L1606
22uH
2520
R1643
1k
C1642
15p
CH
C1641
15p
CH
GCA
F2
F1
F3
L11
L9
L8
L7
L6
L5
L4
L3
L2
L1
VC_SO
XVC_SCK
XCS_SYSTEM
MT_GND
LENS_3.6V
REG_GND
CAM_3.2V
IRIS_PWM
HALL_OFFSET
HALL_AD
HALL_GAIN
VC_SI
CL
XRST_PDR
ZM_RST_SENS1
THERMAL_AD
LENS_RST_LED
FC_RST_SENS
MEMI_VD
①
TO CH-92 BOARD(2/3)
(SEE PAGE 4-18)

CH-92 BOARD(CH BLOCK)

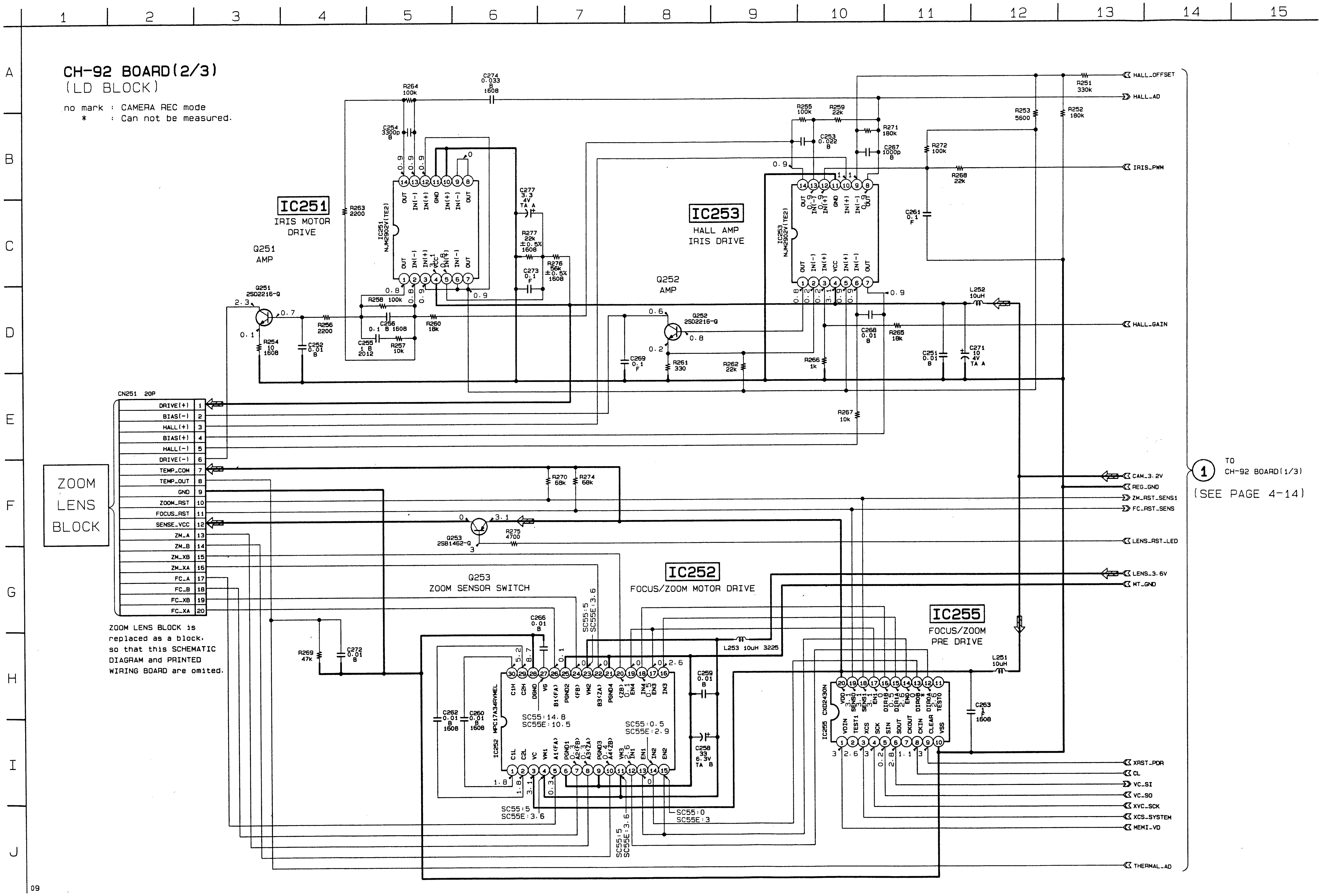


CCD-SC55 :NTSC model
CCD-SC55E:PAL model

CH-92 (LENS DRIVE) SCHEMATIC DIAGRAM

— Ref No. CH-92 BOARD: 1,000 series —

- Refer to page 4-11 for Printed Wiring Board.

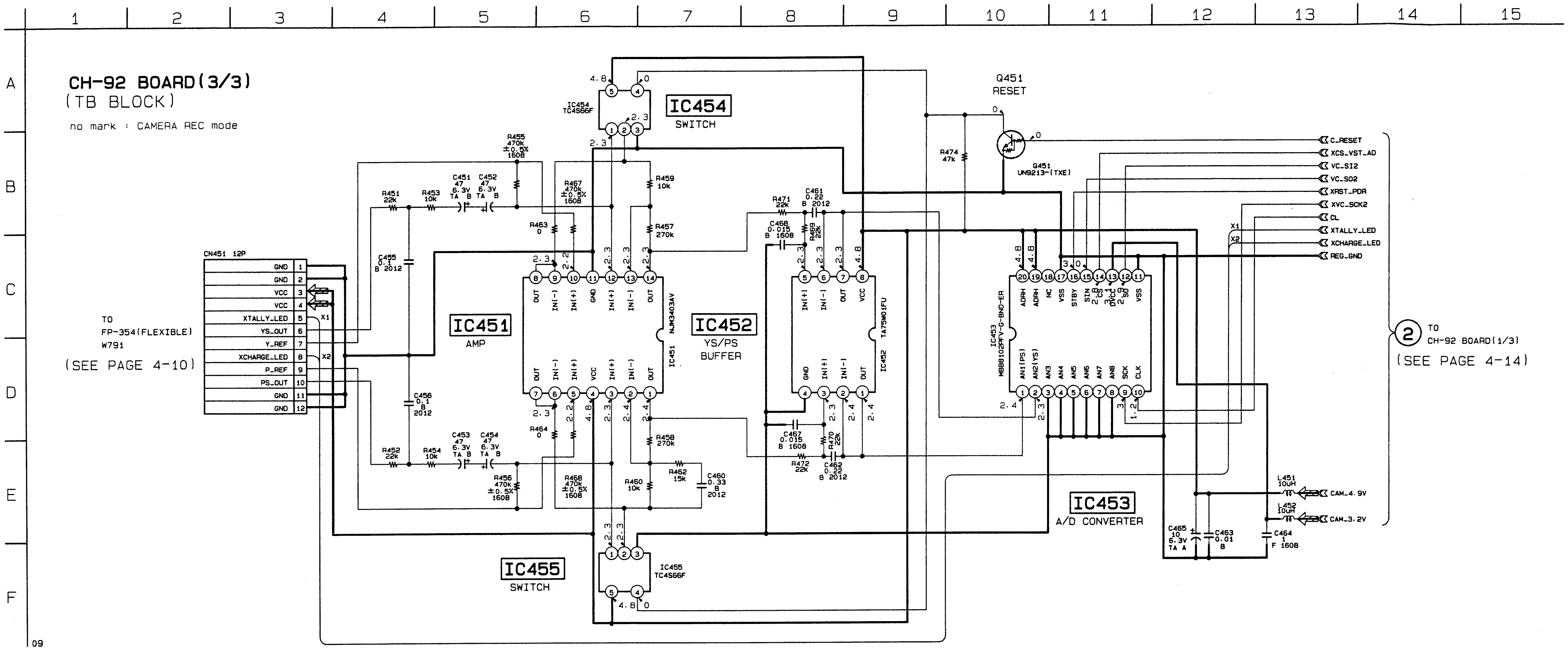


CH-92 BOARD(2/3)
(LD BLOCK)
no mark : CAMERA REC mode
* : Can not be measured.
IC251
IRIS MOTOR DRIVE
IC251 NJM2902V(TE2)
IC253
HALL AMP IRIS DRIVE
IC253 NJM2902V(TE2)
Q251 AMP
Q251 2SD2216-Q
Q252 AMP
Q252 2SD2216-Q
Q253 ZOOM SENSOR SWITCH
Q253 2SB1462-Q
IC252
FOCUS/ZOOM MOTOR DRIVE
IC252 MPC17A34RVMEL
IC255
FOCUS/ZOOM PRE DRIVE
IC255 CXD2430N
CN251 20P
DRIVE(+)
BIAS(-)
HALL(+)
BIAS(+)
HALL(-)
DRIVE(-)
TEMP_COM
TEMP_OUT
GND
ZOOM_RST
FOCUS_RST
SENSE_VCC
ZM_A
ZM_B
ZM_XB
ZM_XA
FC_A
FC_B
FC_XB
FC_XA
ZOOM LENS BLOCK
ZOOM LENS BLOCK is replaced as a block, so that this SCHEMATIC DIAGRAM and PRINTED WIRING BOARD are omited.
HALL_OFFSET
HALL_AD
IRIS_PWM
HALL_GAIN
CAM_3.2V
REG_GND
ZM_RST_SENS1
FC_RST_SENS
LENS_RST_LED
LENS_3.6V
MT_GND
XRST_POR
CL
VC_SI
VC_SO
XVC_SCK
XCS_SYSTEM
MEMI_VD
THERMAL_AD
① TO CH-92 BOARD(1/3)
(SEE PAGE 4-14)
SC55:14.8
SC55E:10.5
SC55:0.5
SC55E:2.9
SC55:5
SC55E:3.6
SC55:0
SC55E:3
L253 10uH 3225
L252 10uH
L251 10uH
R251 330k
R252 180k
R253 5600
R254 10 1608
R255 100k
R256 2200
R257 10k
R258 100k
R259 22k
R260 18k
R261 330
R262 22k
R263 2200
R264 100k
R265 18k
R266 1k
R267 10k
R268 22k
R269 47k
R270 68k
R271 180k
R272 100k
R274 68k
R275 4700
R276 56k ±0.5% 1608
R277 22k ±0.5% 1608
C251 0.01 B
C252 0.01 B
C253 0.022 B
C254 3300p B
C255 1 B 2012
C256 0.1 B 1608
C258 33 6.3V TA B
C259 0.01 B
C260 0.01 B 1608
C261 0.1 F
C262 0.01 B 1608
C263 1 F 1608
C266 0.01 B
C267 1000p B
C268 0.01 B
C269 0.1 F
C271 10 4V TA A
C272 0.01 B
C273 0.1 F
C274 0.033 B 1608
C277 3.3 4V TA A
09

CH-92 (STEADY SHOT) SCHEMATIC DIAGRAM

— Ref No. CH-92 BOARD: 1,000 series —

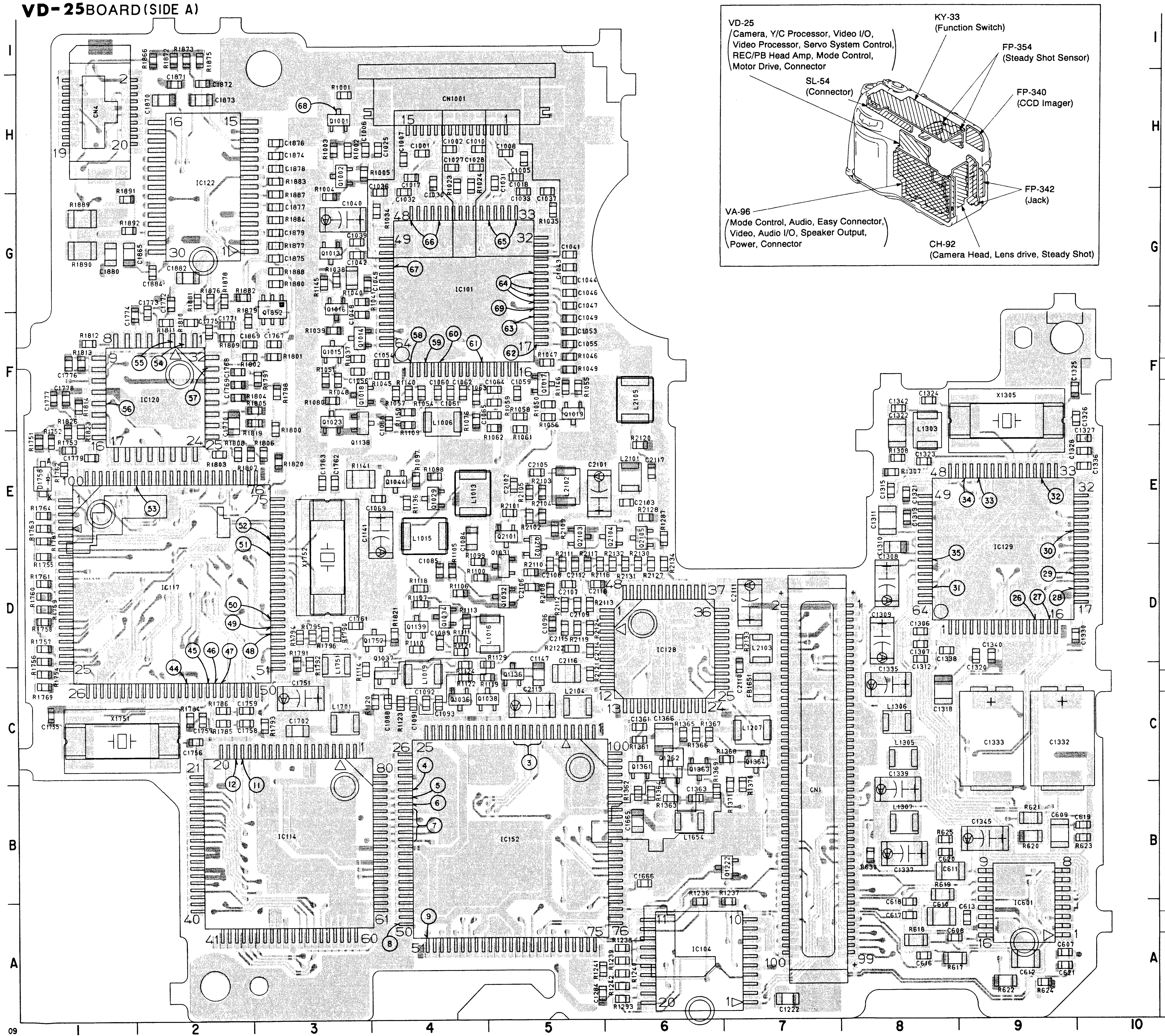
- Refer to page 4-11 for Printed Wiring Board.


CH-92 BOARD(3/3)
(TB BLOCK)
no mark : CAMERA REC mode
TO
FP-354(FLEXIBLE)
W791
(SEE PAGE 4-10)
CN451 12P
GND
GND
VCC
VCC
XTALLY_LED
YS_OUT
Y_REF
XCHARGE_LED
P_REF
PS_OUT
GND
GND
IC451
AMP
IC451 NJM3403AV
IC452
YS/PS
BUFFER
IC452 TA75W01FU
IC454
SWITCH
IC454 TC4S66F
IC455
SWITCH
IC455 TC4S66F
IC453
A/D CONVERTER
IC453 MB88102PFV-G-BND-ER
Q451
RESET
Q451 UN9213-(TXE)
R474 47k
C_RESET
XCS_VST_AD
VC_SI2
VC_SO2
XRST_PDR
XVC_SCK2
CL
XTALLY_LED
XCHARGE_LED
REG_GND
L451 10uH
L452 10uH
CAM_4.9V
CAM_3.2V
C465 10 6.3V TA A
C463 0.01 B
C464 1 F 1608
TO
CH-92 BOARD(1/3)
(SEE PAGE 4-14)
R451 22k
R453 10k
R452 22k
R454 10k
C451 47 6.3V TA B
C452 47 6.3V TA B
C453 47 6.3V TA B
C454 47 6.3V TA B
C455 0.1 B 2012
C456 0.1 B 2012
R455 470k ±0.5% 1608
R456 470k ±0.5% 1608
R457 470k ±0.5% 1608
R458 470k ±0.5% 1608
R459 10k
R460 10k
R457 270k
R458 270k
R462 15k
R463 0
R464 0
C460 0.33 B 2012
R471 22k
R472 22k
R469 22k
R470 22k
C461 0.22 B 2012
C462 0.22 B 2012
C468 0.015 B 1608
C467 0.015 B 1608
X1
X2
09

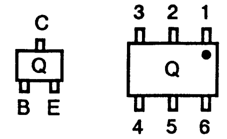
VD-25 (CAMERA, Y/C PROCESSOR, VIDEO I/O, VIDEO PROCESSOR, SERVO SYSTEM CONTROL, REC/PB HEAD AMP, MODE CONTROL, MOTOR DRIVE, CONNECTOR) PRINTED WIRING BOARD

— Ref No. VD-25 BOARD: 2,000 series —

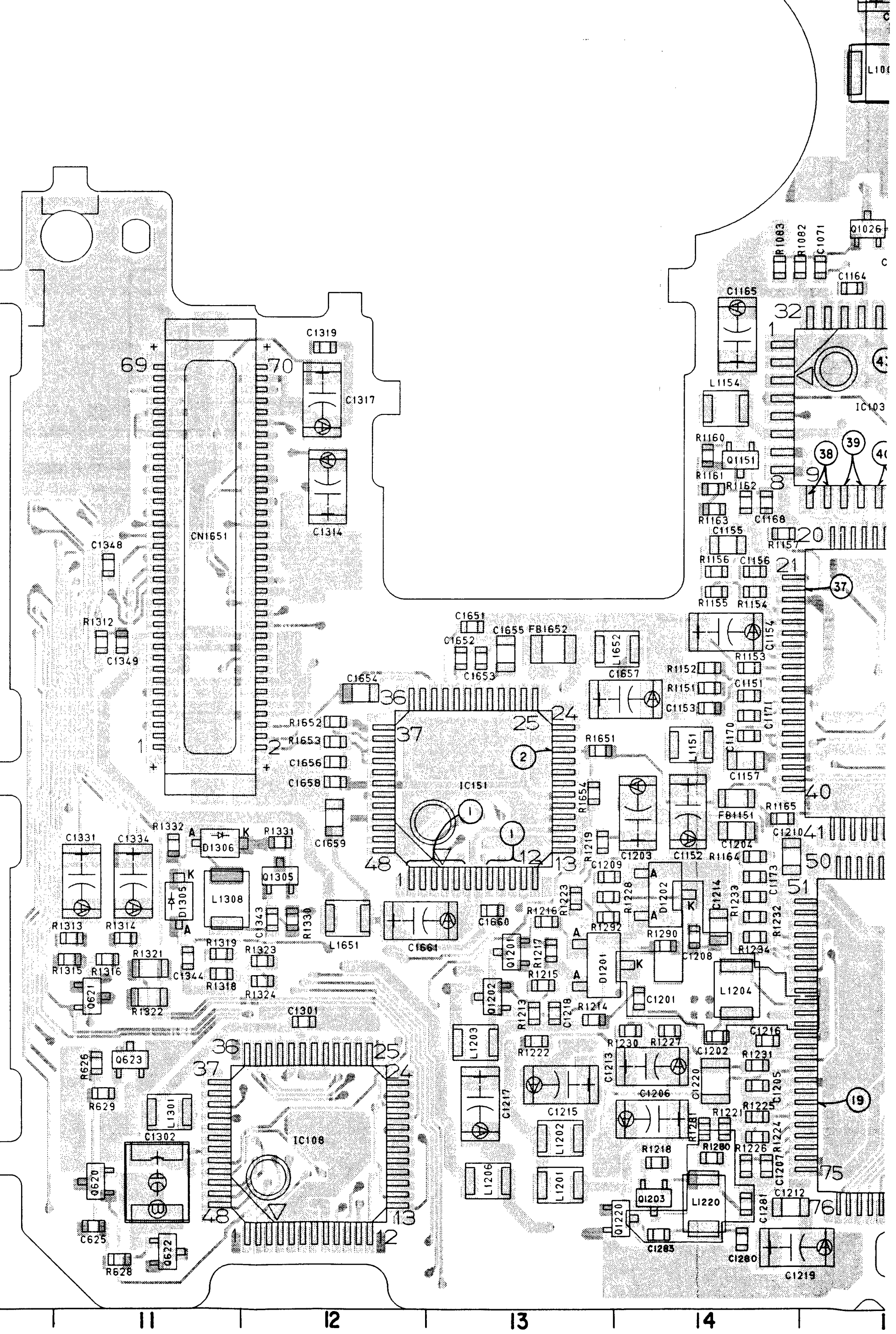
VD-25BOARD (SIDE A)


VD-25
(Camera, Y/C Processor, Video I/O, Video Processor, Servo System Control, REC/PB Head Amp, Mode Control, Motor Drive, Connector)
KY-33
(Function Switch)
FP-354
(Steady Shot Sensor)
SL-54
(Connector)
FP-340
(CCD Imager)
FP-342
(Jack)
VA-96
(Mode Control, Audio, Easy Connector, Video, Audio I/O, Speaker Output, Power, Connector)
CH-92
(Camera Head, Lens drive, Steady Shot)
CN1001
CN4
IC122
IC101
IC120
IC117
IC114
IC152
IC128
IC129
IC104
IC601
CN1
X1751
X1752
X1305
L1015
L1013
L2105
I
H
G
F
E
D
C
B
A
09
1
2
3
4
5
6
7
8
9
10

- **For printed wiring boards.**
- VD-25 board is six-layer print board. However, the patterns of layers 2 to 5 have not been included in the diagram.
- Chip transistor


C
Q
B E
3 2 1
Q
4 5 6

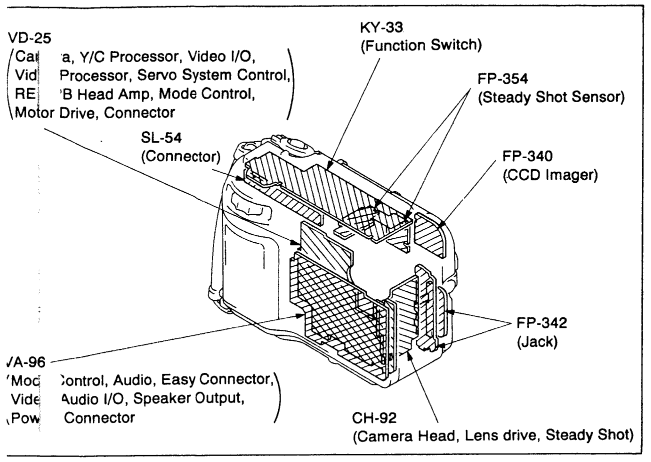
There are few cases that the part isn't mounted in this model is printed on this diagram.


CN1651
IC151
IC103
IC108
X1305
I
H
G
F
E
D
C
B
A
11
12
13
14

CAMERA, Y/C PROCESSOR, VIDEO I/O, VIDEO PROCESSOR, SERVO SYSTEM CONTROL, REC/PB HEAD AMP, MODE CONTROL, MOTOR DRIVE, CONNECTOR

VD-25

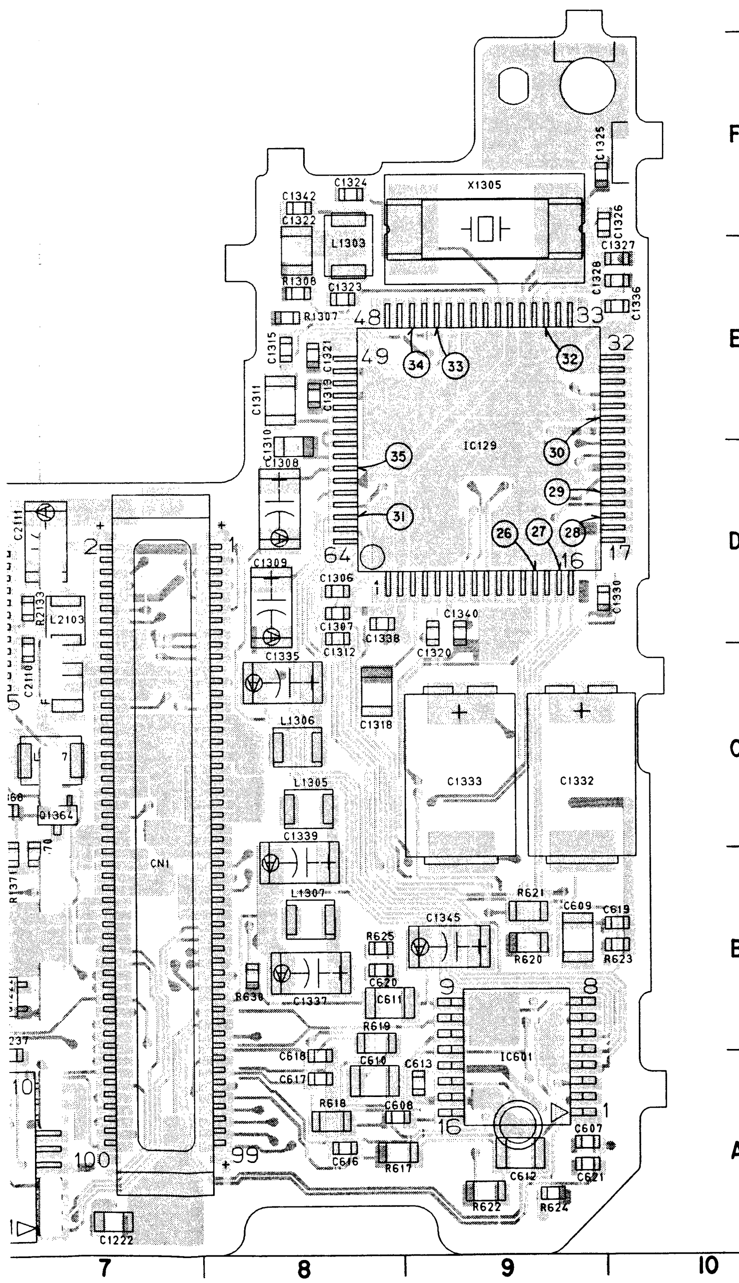
HEAD AMP, MODE CONTROL, MOTOR DRIVE, CONNECTOR) PRINTED WIRING BOARD

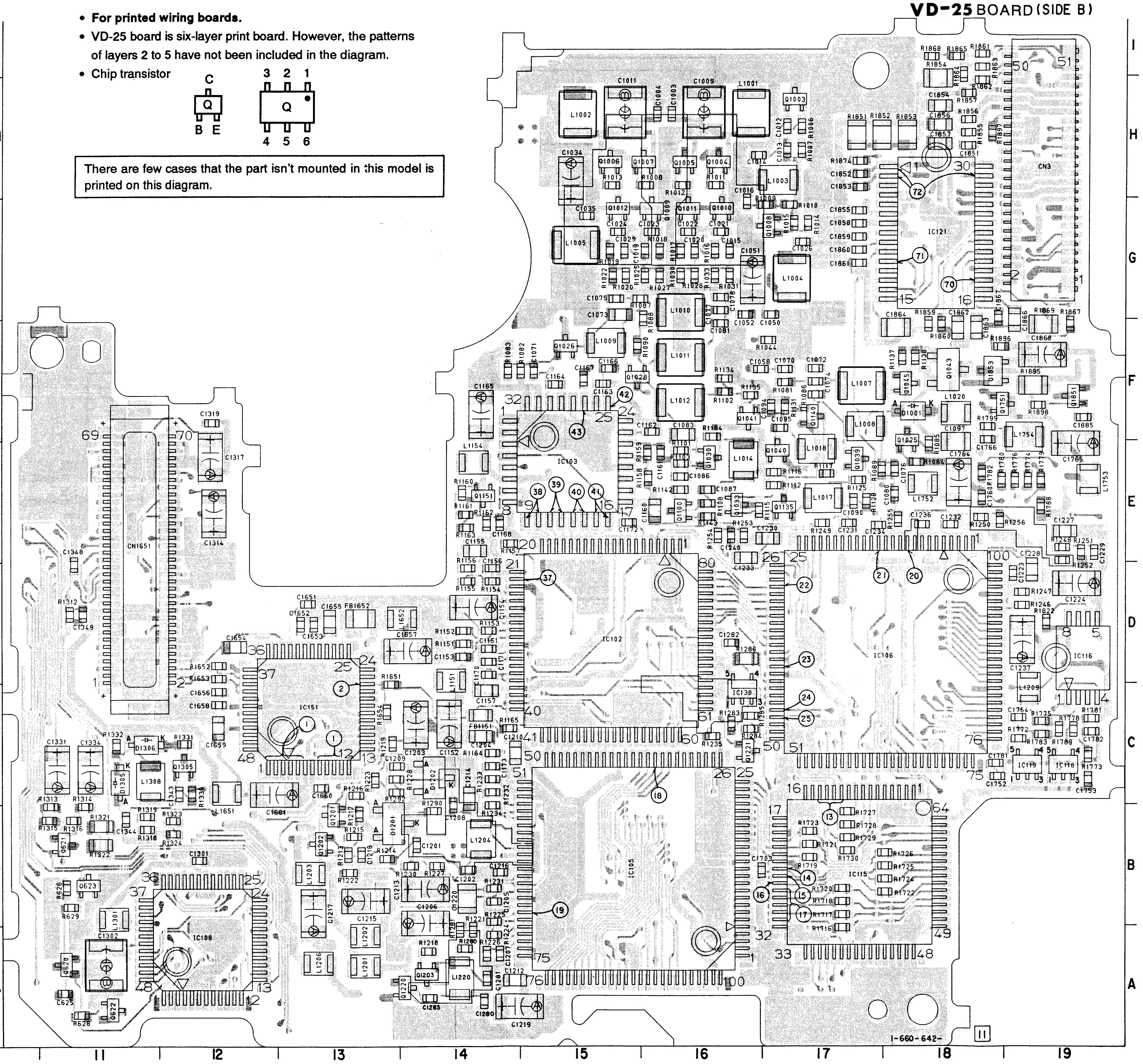

VD-25
(Ca a, Y/C Processor, Video I/O,
Vid Processor, Servo System Control,
RE B Head Amp, Mode Control,
Motor Drive, Connector
KY-33
(Function Switch)
FP-354
(Steady Shot Sensor)
SL-54
(Connector)
FP-340
(CCD Imager)
FP-342
(Jack)
VA-96
Mod Control, Audio, Easy Connector,
Vide Audio I/O, Speaker Output,
Pow Connector
CH-92
(Camera Head, Lens drive, Steady Shot)

- **For printed wiring boards.**
- VD-25 board is six-layer print board. However, the patterns of layers 2 to 5 have not been included in the diagram.
- Chip transistor

There are few cases that the part isn't mounted in this model is printed on this diagram.

VD-25 BOARD (SIDE B)


IC129
IC601
CN1
X1305
C1333
C1332
L1303
L1305
L1306
7
8
9
10
D
C
B
A


C
Q
B E
3 2 1
Q
4 5 6
CN1651
IC151
IC108
IC103
IC102
IC106
IC105
IC115
IC116
IC121
IC130
IC118
IC119
CN3
L1001
L1002
L1003
L1004
L1005
L1007
L1008
L1009
L1010
L1011
L1012
L1014
L1017
L1018
L1020
L1204
L1220
L1308
1-660-642-
11
I
H
G
F
E
D
C
B
A
11
12
13
14
15
16
17
18
19

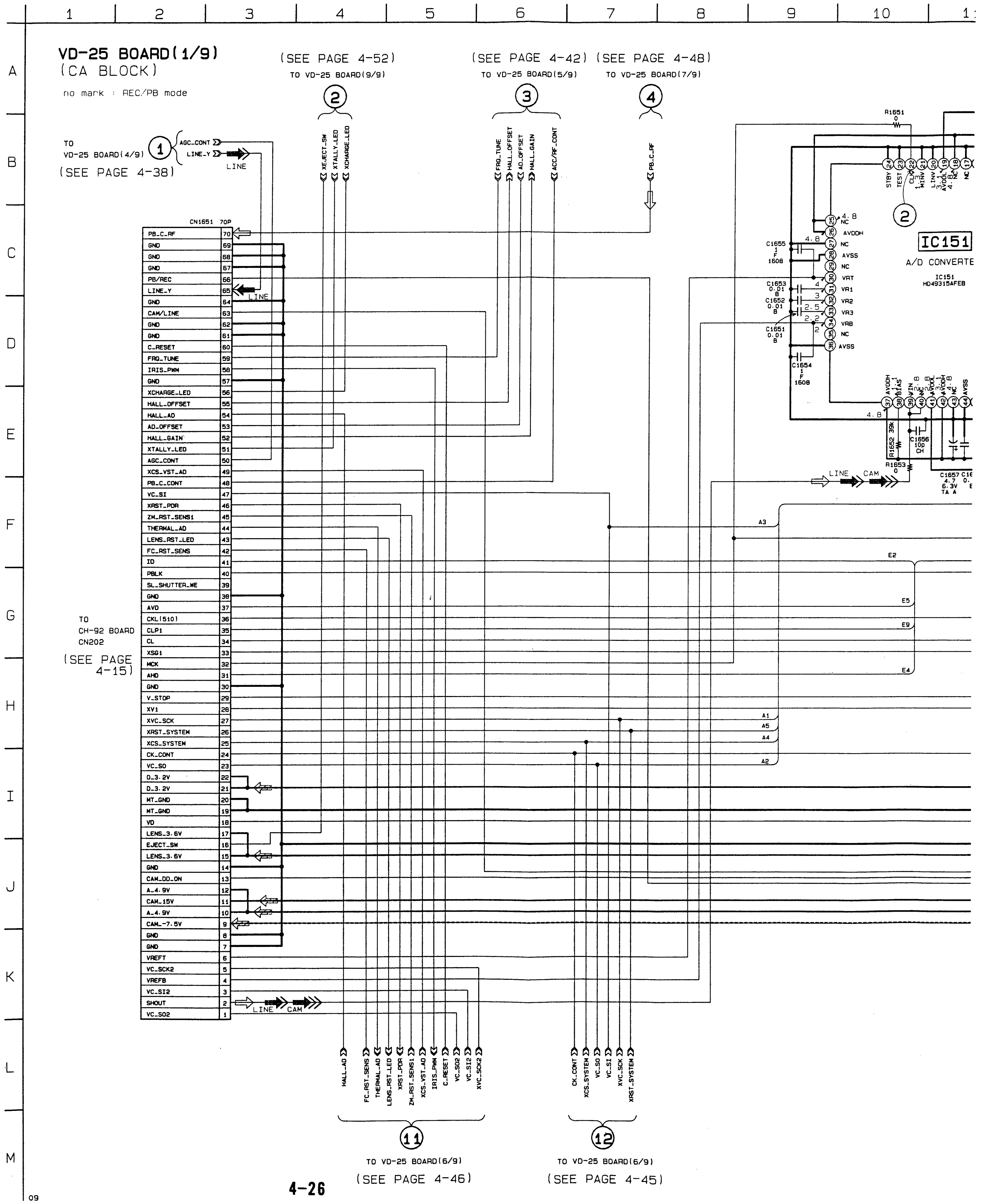
OL, REC/PB HEAD AMP, MODE CONTROL, MOTOR DRIVE, CONNECTOR

VD-25 BOARD

C607	A-9	C1095	F-17	C1333	C-9	C1884	G-2	L1203	B-13	Q1364	C-7	R1088	G-16	R1248	E-19	R1806	E-3
C608	A-9	C1096	D-5	C1334	C-11	C1885	F-19	L1204	B-14	Q1751	F-18	R1089	E-17	R1249	E-17	R1807	E-2
C609	B-9	C1097	F-18	C1335	C-8	C2101	E-5	L1206	A-13	Q1851	F-19	R1090	F-15	R1250	E-18	R1808	E-2
C610	A-8	C1141	E-4	C1336	E-10	C2102	E-5	L1207	C-7	Q1852	G-3	R1097	E-4	R1251	E-19	R1809	F-2
C611	B-8	C1147	C-5	C1337	B-8	C2103	E-6	L1209	C-19	Q1853	F-18	R1098	E-4	R1252	E-19	R1810	F-2
C612	A-9	C1151	D-14	C1338	D-8	C2105	E-5	L1220	A-14	Q2101	E-5	R1100	D-4	R1253	E-16	R1811	F-2
C613	A-9	C1152	C-14	C1339	B-8	C2106	D-5	L1301	B-11	Q2102	E-5	R1101	E-16	R1254	E-16	R1812	F-1
C625	A-11	C1153	D-14	C1340	D-9	C2107	D-5	L1303	E-8	Q2103	E-5	R1103	E-16	R1255	E-18	R1813	F-1
C1001	H-4	C1154	D-14	C1342	F-9	C2108	D-5	L1305	C-8	Q2104	E-6	R1104	F-16	R1256	E-18	R1814	F-1
C1002	H-4	C1155	E-14	C1343	C-12	C2109	D-5	L1306	C-8	Q2105	E-6	R1106	D-4	R1280	A-14	R1821	D-4
C1003	H-16	C1156	D-14	C1344	B-11	C2110	D-7	L1307	B-8			R1107	D-4	R1281	A-14	R1822	D-19
C1004	H-16	C1157	C-14	C1345	B-9	C2111	D-7	L1308	C-11	R617	A-9	R1108	E-16	R1283	C-16	R1823	F-1
C1005	H-5	C1160	E-16	C1361	C-6	C2112	D-5	L1651	C-12	R618	A-8	R1110	D-4	R1284	C-16	R1826	F-1
C1007	H-4	C1161	E-16	C1363	B-6	C2113	C-5	L1652	D-14	R619	B-8	R1111	D-4	R1285	C-16	R1851	H-17
C1008	H-5	C1162	F-16	C1366	C-6	C2114	D-5	L1654	B-6	R620	B-9	R1112	E-17	R1286	D-16	R1852	H-17
C1009	H-16	C1163	F-15	C1651	D-13	C2115	D-5	L1701	C-3	R621	B-9	R1113	D-4	R1290	B-14	R1853	H-18
C1010	H-4	C1164	F-15	C1652	D-13	C2116	C-5	L1751	D-3	R622	A-9	R1114	C-3	R1292	C-14	R1855	H-18
C1011	H-15	C1165	F-14	C1653	D-13	C2117	E-6	L1752	E-18	R623	B-10	R1115	E-16	R1307	E-8	R1856	H-18
C1012	H-17	C1166	F-15	C1654	D-12	C2118	D-5	L1753	E-19	R624	A-9	R1116	E-17	R1308	E-8	R1857	H-18
C1013	H-17	C1167	F-15	C1655	D-13			L1754	F-19	R625	B-8	R1117	E-17	R1312	D-11	R1859	F-18
C1014	H-16	C1168	E-14	C1656	C-12	CN1	C-7	L2101	E-6	R626	B-11	R1118	D-4	R1313	C-11	R1860	F-18
C1015	G-16	C1173	C-14	C1657	D-14	CN3	H-19	L2102	E-5	R628	A-11	R1119	C-5	R1314	C-11	R1861	I-18
C1016	H-16	C1201	B-14	C1658	C-12	CN4	H-1	L2103	D-7	R629	B-11	R1120	C-4	R1315	B-11	R1862	H-18
C1017	H-4	C1203	C-14	C1659	C-12	CN1001	H-4	L2104	C-5	R630	B-8	R1121	D-4	R1316	B-11	R1863	I-18
C1018	H-5	C1204	C-14	C1665	B-6	CN1651	E-11	L2105	F-6	R1001	H-3	R1122	C-4	R1318	B-11	R1864	I-18
C1019	G-16	C1205	B-14	C1702	C-3					R1002	H-3	R1123	C-4	R1319	B-11	R1865	I-18
C1020	G-16	C1206	B-14	C1703	B-17	D1201	B-13	Q620	A-11	R1003	H-3	R1124	D-4	R1321	B-11	R1866	I-2
C1021	G-16	C1207	A-14	C1751	C-3	D1202	C-14	Q621	B-11	R1004	H-3	R1125	E-17	R1322	B-11	R1867	F-19
C1022	G-16	C1208	B-14	C1752	C-18	D1305	C-11	Q622	A-11	R1005	H-3	R1128	E-17	R1323	B-12	R1868	I-18
C1023	G-16	C1209	C-13	C1753	C-19	D1306	C-11	Q623	B-11	R1006	H-17	R1129	D-5	R1324	B-12	R1869	F-19
C1024	G-15	C1210	C-14	C1754	C-19	D1758	E-1	Q1001	H-3	R1007	H-17	R1131	F-17	R1330	C-12	R1872	I-2
C1025	H-4	C1212	A-14	C1755	C-1			Q1002	H-3	R1008	H-16	R1134	F-16	R1331	C-12	R1873	I-2
C1026	F-17	C1213	B-14	C1756	C-2	FB1151	C-14	Q1003	H-17	R1009	F-17	R1135	F-16	R1332	C-11	R1874	H-17
C1027	H-4	C1215	B-13	C1757	C-2	FB1651	C-7	Q1004	H-16	R1010	F-17	R1136	E-4	R1361	C-6	R1875	I-2
C1028	H-4	C1216	B-14	C1758	C-2	FB1652	D-13	Q1005	H-16	R1011	H-16	R1137	F-18	R1362	B-6	R1876	G-2
C1029	G-15	C1217	B-13	C1760	E-18			Q1006	H-15	R1012	H-16	R1138	F-18	R1363	B-6	R1877	G-3
C1030	H-4	C1218	B-13	C1761	D-3	IC101	G-4	Q1007	H-16	R1013	H-15	R1141	E-3	R1364	B-6	R1878	G-2
C1031	H-5	C1219	A-14	C1762	E-3	IC102	D-15	Q1008	F-17	R1014	F-17	R1142	E-16	R1365	C-6	R1880	G-3
C1032	H-4	C1220	B-14	C1763	E-3	IC103	E-15	Q1009	G-16	R1015	F-17	R1143	E-16	R1366	C-6	R1881	G-2
C1033	H-5	C1222	A-7	C1764	E-18	IC104	A-6	Q1010	G-16	R1016	G-16	R1150	F-4	R1367	C-6	R1882	G-2
C1034	H-15	C1223	D-19	C1765	E-19	IC105	B-15	Q1011	G-16	R1017	G-16	R1151	D-14	R1368	C-7	R1883	H-3
C1035	G-15	C1224	D-19	C1766	F-18	IC106	D-18	Q1012	G-15	R1018	G-16	R1152	D-14	R1370	B-7	R1884	G-3
C1036	H-4	C1227	E-19	C1768	F-2	IC108	A-12	Q1013	G-3	R1019	G-15	R1153	D-14	R1371	B-7	R1887	H-3
C1037	H-5	C1228	D-19	C1769	F-2	IC114	B-3	Q1014	F-3	R1020	G-15	R1154	D-14	R1651	D-13	R1889	G-1
C1039	G-3	C1229	E-19	C1770	F-2	IC115	B-17	Q1015	F-3	R1022	G-15	R1155	D-14	R1652	D-12	R1890	G-1
C1040	G-3	C1230	E-17	C1771	F-2	IC116	D-19	Q1016	G-3	R1023	H-4	R1156	D-14	R1653	D-12	R1891	G-1
C1042	G-3	C1231	E-17	C1772	G-2	IC117	D-2	Q1017	F-5	R1024	H-4	R1157	E-14	R1751	E-1	R1892	G-1
C1045	G-4	C1232	E-18	C1773	G-2	IC118	C-19	Q1018	F-3	R1025	G-16	R1159	E-16	R1752	E-1	R1895	F-19
C1048	G-3	C1233	E-16	C1774	G-2	IC119	C-19	Q1019	F-5	R1027	G-16	R1160	E-14	R1753	E-1	R1897	H-18
C1050	F-17	C1234	E-17	C1775	F-2	IC120	F-2	Q1023	F-3	R1028	G-16	R1162	E-14	R1758	D-1	R1898	F-19
C1051	G-16	C1236	E-18	C1776	F-1	IC121	G-18	Q1025	F-18	R1030	G-16	R1163	E-14	R1759	D-1	R2101	E-5
C1052	G-16	C1237	D-19	C1777	F-1	IC122	H-2	Q1026	F-15	R1031	G-16	R1164	C-14	R1760	D-1	R2102	E-5
C1053	F-5	C1240	E-16	C1779	E-1	IC128	D-6	Q1028	F-15	R1033	G-16	R1165	C-14	R1761	D-1	R2103	E-5
C1054	F-4	C1280	A-14	C1781	C-18	IC129	D-9	Q1029	E-4	R1034	G-4	R1213	B-13	R1762	E-1	R2104	E-5
C1055	F-5	C1282	D-16	C1782	C-19	IC130	C-16	Q1030	E-16	R1035	G-5	R1215	B-13	R1763	E-1	R2105	E-5
C1058	F-16	C1283	A-14	C1851	H-18	IC151	C-13	Q1033	E-16	R1037	F-3	R1216	C-13	R1764	E-1	R2108	D-5
C1060	F-4	C1301	B-12	C1852	H-17	IC152	B-5	Q1034	D-4	R1038	G-3	R1217	B-13	R1772	C-19	R2109	E-5
C1063	F-4	C1302	A-11	C1853	H-17	IC601	A-9	Q1036	C-4	R1039	F-3	R1218	A-14	R1773	C-19	R2110	D-5
C1064	F-5	C1306	D-8	C1855	F-17			Q1037	C-4	R1040	G-3	R1219	C-13	R1774	E-19	R2111	D-5
C1065	F-5	C1307	D-8	C1858	F-17	L1001	H-16	Q1038	C-5	R1041	G-3	R1221	A-14	R1775	C-19	R2112	D-5
C1068	F-4	C1308	D-8	C1859	F-17	L1002	H-15	Q1039	E-17	R1045	F-4	R1222	B-13	R1776	E-19	R2113	D-5
C1069	E-4	C1309	D-8	C1860	F-17	L1003	H-17	Q1040	E-17	R1046	F-5	R1223	C-13	R1779	E-19	R2116	D-5
C1070	F-17	C1310	D-8	C1861	F-17	L1004	F-17	Q1041	F-16	R1047	F-5	R1224	A-14	R1780	E-18	R2117	D-5
C1071	F-15	C1311	E-8	C1862	F-18	L1005	G-15	Q1043	F-18	R1048	F-3	R1225	B-14	R1781	C-19	R2119	D-5
C1072	F-17	C1312	D-8	C1863	F-18	L1006	F-4	Q1044	E-4	R1049	F-5	R1226	A-14	R1782	E-18	R2120	E-6
C1073	G-15	C1313	E-8	C1864	F-18	L1007	F-17	Q1045	F-18	R1050	F-5	R1227	B-14	R1783	C-19	R2121	C-5
C1074	F-17	C1314	E-12	C1865	G-1	L1008	F-17	Q1100	E-16	R1051	F-3	R1228	C-13	R1784	C-2	R2122	D-5
C1076	E-18	C1315	E-8	C1866	G-19	L1009	F-15	Q1135	E-17	R1054	F-4	R1230	B-14	R1785	C-2	R2124	D-5
C1077	G-16	C1317	E-12	C1867	G-18	L1010	G-16	Q1136	C-5	R1055	F-5	R1231	B-14	R1786	C-2	R2127	D-6
C1080	E-18	C1318	C-8	C1869	F-2	L1011	F-16	Q1138	F-3	R1056	F-5	R1232	C-14	R1787	E-1	R2128	E-6
C1081	F-16	C1319	F-12	C1870	H-2	L1012	F-16	Q1139	D-4	R1057	F-4	R1233	C-14	R1789	C-19	R2130	D-6
C1083	F-16	C1320	D-9	C1871	H-2	L1013	E-4	Q1140	F-17	R1061	F-5	R1234	C-14	R1790	D-3	R2131	D-6
C1084	E-4	C1321	E-8	C1872	H-2	L1014	E-16	Q1151	E-14	R1062	F-5	R1235	C-16	R1791	D-3	R2132	D-6
C1085	D-4	C1322	E-8	C1873	H-2	L1015	E-4	Q1201	B-13	R1076	F-4	R1236	B-6	R1792	D-3	R2133	D-7
C1086	E-16	C1323	E-8	C1874	H-3	L1017	E-17	Q1202	B-13	R1080	F-3	R1237	B-7	R1793	C-3	R2134	D-6
C1087	E-16	C1324	F-9	C1875	G-3	L1018	E-17	Q1203	A-14	R1081	F-17	R1238	A-6	R1794	D-3		
C1089	D-4	C1326	F-10	C1876	H-3	L1019	C-4	Q1220	A-14	R1082	F-15	R1239	A-6	R1795	D-3	X1305	F-9
C1090	E-17	C1327	E-10	C1877	G-3	L1020	F-18	Q1221	C-16	R1083	F-14	R1240	A-6	R1796	D-3	X1751	C-1
C1091	C-4	C1328	E-10	C1878	H-3	L1151	D-14	Q1305	C-12	R1084	E-18	R1241	A-6	R1798	F-3	X1752	D-3
C1092	C-4	C1330	D-10	C1879	G-3	L1154	E-14	Q1361	C-6	R1085	E-18	R1242	A-6	R1803	E-2		
C1093	C-4	C1331	C-11	C1880	G-1	L1201	A-13	Q1362	C-6	R1086	F-17	R1246	D-19	R1804	F-2		
C1094	F-17	C1332	C-9	C1882	G-2	L1202	A-13	Q1363	C-6	R1087	G-15	R1247	D-19	R1805	F-3		

VD-25 (CAMERA (1)) SCHEMATIC DIAGRAM

— Ref No. VD-25 BOARD: 2,000 series —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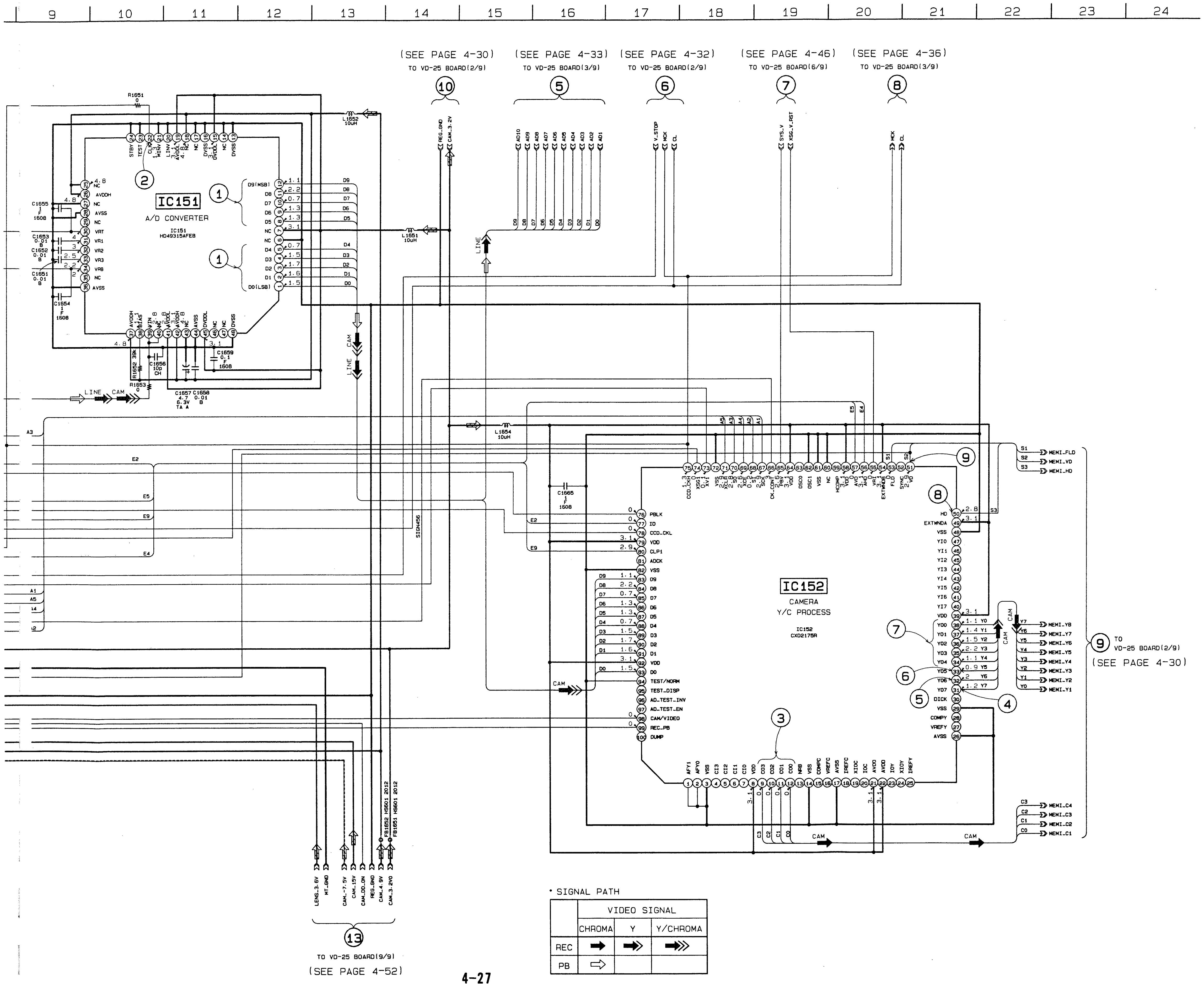
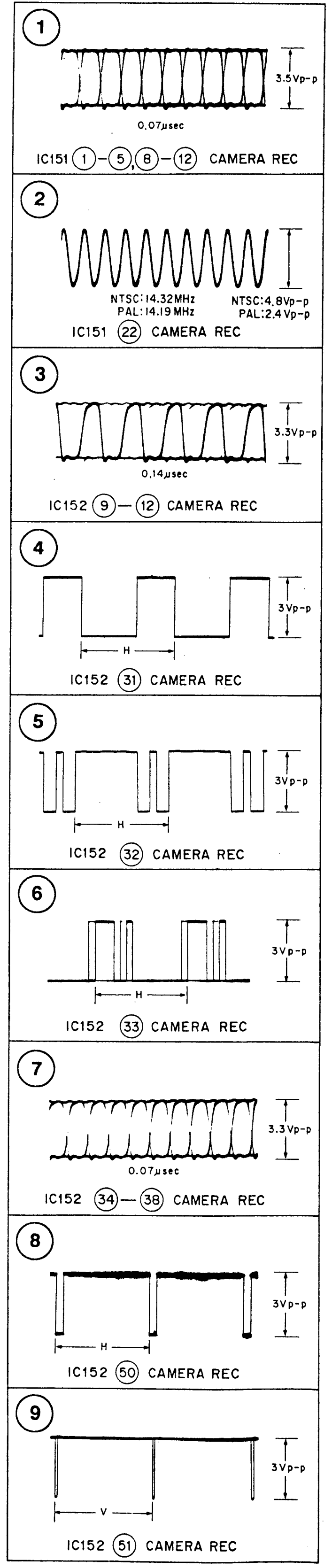
I
J
K
L
M
VD-25 BOARD(1/9)
(CA BLOCK)
no mark : REC/PB mode
(SEE PAGE 4-52)
TO VD-25 BOARD(9/9)
(SEE PAGE 4-42)
TO VD-25 BOARD(5/9)
(SEE PAGE 4-48)
TO VD-25 BOARD(7/9)
TO
VD-25 BOARD(4/9)
(SEE PAGE 4-38)
①
AGC_CONT
LINE_Y
LINE
②
XEJECT_SW
XTALLY_LED
XCHARGE_LED
③
FRQ_TUNE
HALL_OFFSET
AD_OFFSET
HALL_GAIN
ACC/RF_CONT
④
PB_C_RF
CN1651 70P
PB_C_RF 70
GND 69
GND 68
GND 67
PB/REC 66
LINE_Y 65
GND 64
CAM/LINE 63
GND 62
GND 61
C_RESET 60
FRQ_TUNE 59
IRIS_PWM 58
GND 57
XCHARGE_LED 56
HALL_OFFSET 55
HALL_AD 54
AD_OFFSET 53
HALL_GAIN 52
XTALLY_LED 51
AGC_CONT 50
XCS_VST_AD 49
PB_C_CONT 48
VC_SI 47
XRST_POR 46
ZM_RST_SENS1 45
THERMAL_AD 44
LENS_RST_LED 43
FC_RST_SENS 42
ID 41
PBLK 40
SL_SHUTTER_WE 39
GND 38
AVD 37
CKL(510) 36
CLP1 35
CL 34
XSG1 33
MCK 32
AHD 31
GND 30
V_STOP 29
XV1 28
XVC_SCK 27
XRST_SYSTEM 26
XCS_SYSTEM 25
CK_CONT 24
VC_SO 23
D_3.2V 22
D_3.2V 21
MT_GND 20
MT_GND 19
VD 18
LENS_3.6V 17
EJECT_SW 16
LENS_3.6V 15
GND 14
CAM_DD_ON 13
A_4.9V 12
CAM_15V 11
A_4.9V 10
CAM_-7.5V 9
GND 8
GND 7
VREFT 6
VC_SCK2 5
VREFB 4
VC_SI2 3
SHOUT 2
VC_SO2 1
TO
CH-92 BOARD
CN202
(SEE PAGE 4-15)
LINE
CAM
R1651 0
IC151
A/D CONVERTE
IC151 HD49315AFEB
STBY 24
TEST 23
CLK 22
MINV 21
LINV 20
AVDDL 19
NC 18
NC 17
NC 25
AVDDH 26
NC 27
AVSS 28
NC 29
VRT 30
VR1 31
VR2 32
VR3 33
VRB 34
NC 35
AVSS 36
AVDDH 37
BIAS 38
VIN 39
NC 40
AVDDL 41
AVDDH 42
NC 43
AVSS 44
4.8
4
3
2.5
2.2
2
1.3
3.1
1.1
2.8
C1655 1 F 1608
C1653 0.01 B
C1652 0.01 B
C1651 0.01 B
C1654 1 F 1608
R1652 39k
C1656 10p CH
R1653 0
C1657 4.7 6.3V TA A
A3
E2
E5
E9
E4
A1
A5
A4
A2
HALL_AD
FC_RST_SENS
THERMAL_AD
LENS_RST_LED
XRST_POR
ZM_RST_SENS1
XCS_VST_AD
IRIS_PWM
C_RESET
VC_SO2
VC_SI2
XVC_SCK2
CK_CONT
XCS_SYSTEM
VC_SO
VC_SI
XVC_SCK
XRST_SYSTEM
⑪
TO VD-25 BOARD(6/9)
(SEE PAGE 4-46)
⑫
TO VD-25 BOARD(6/9)
(SEE PAGE 4-45)
09


IC151
A/D CONVERTER
IC151 HD49315AFEB
IC152
CAMERA
Y/C PROCESS
IC152 CXD2175R
(SEE PAGE 4-30) TO VD-25 BOARD(2/9)
(SEE PAGE 4-33) TO VD-25 BOARD(3/9)
(SEE PAGE 4-32) TO VD-25 BOARD(2/9)
(SEE PAGE 4-46) TO VD-25 BOARD(6/9)
(SEE PAGE 4-36) TO VD-25 BOARD(3/9)
TO VD-25 BOARD(2/9) (SEE PAGE 4-30)
TO VD-25 BOARD(9/9) (SEE PAGE 4-52)
REG_GND
CAM_3.2V
V_STOP
MCK
CL
SYS_V
XSG_V_RST
MEMI_FLD
MEMI_VD
MEMI_HD
MEMI_Y8
MEMI_Y7
MEMI_Y6
MEMI_Y5
MEMI_Y4
MEMI_Y3
MEMI_Y2
MEMI_Y1
MEMI_C4
MEMI_C3
MEMI_C2
MEMI_C1
LENS_3.6V
MT_GND
CAM_-7.5V
CAM_15V
CAM_DD_ON
REG_GND
CAM_4.9V
CAM_3.2V
FB1652 MS601 2012
FB1651 MS601 2012
L1652 10uH
L1651 10uH
L1654 10uH
C1665 1 1608
LINE
CAM

VD-25 BOARD (CA BLOCK)



CCD-SC55 : NTSC model
CCD-SC55E: PAL model

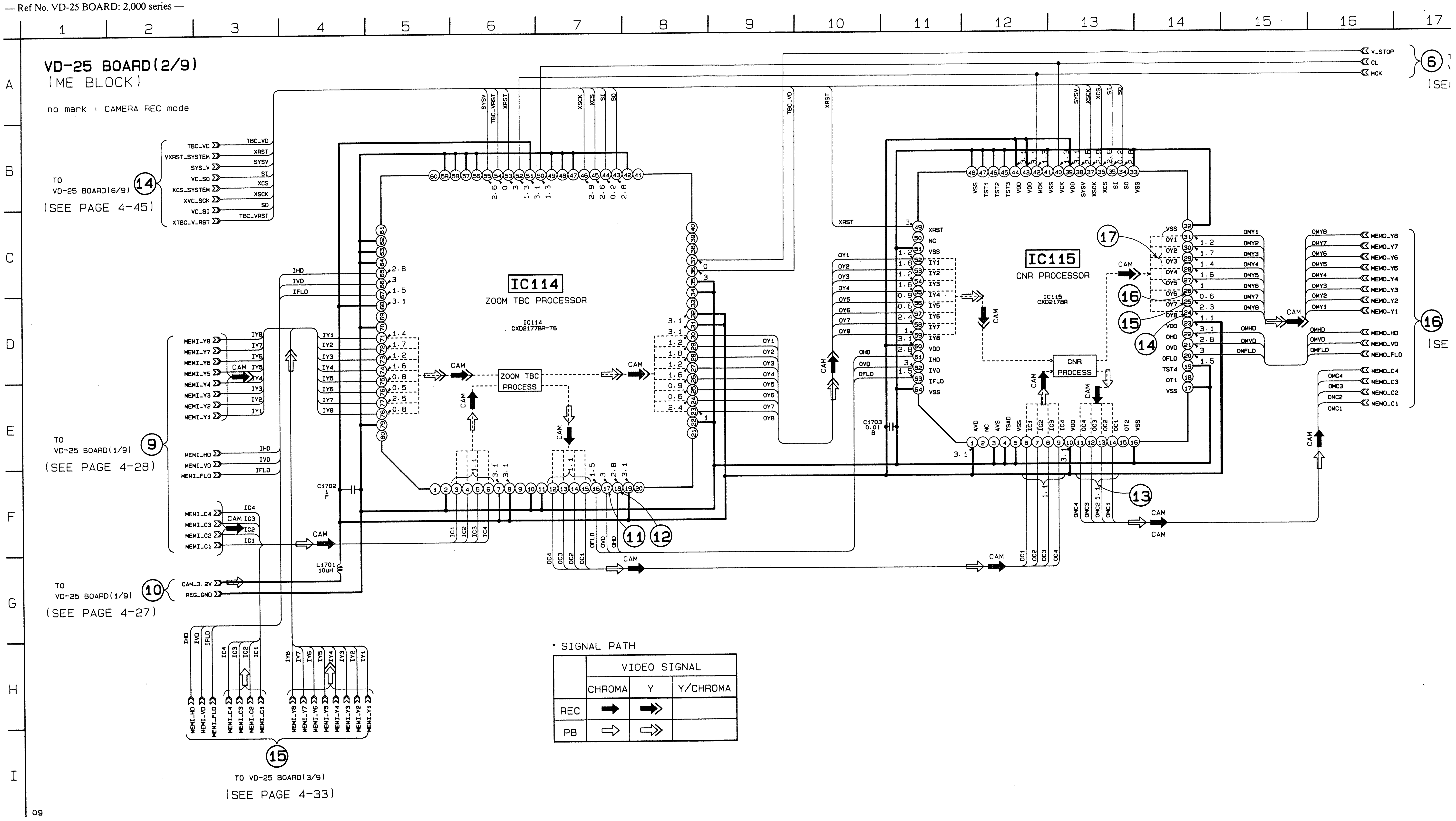
• SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡	➡»	➡»»
PB	⇨		

VD-25 (CAMERA (2)) SCHEMATIC DIAGRAM

- Refer to page 4–22 for Printed Wiring Board.

— Ref No. VD-25 BOARD: 2,000 series —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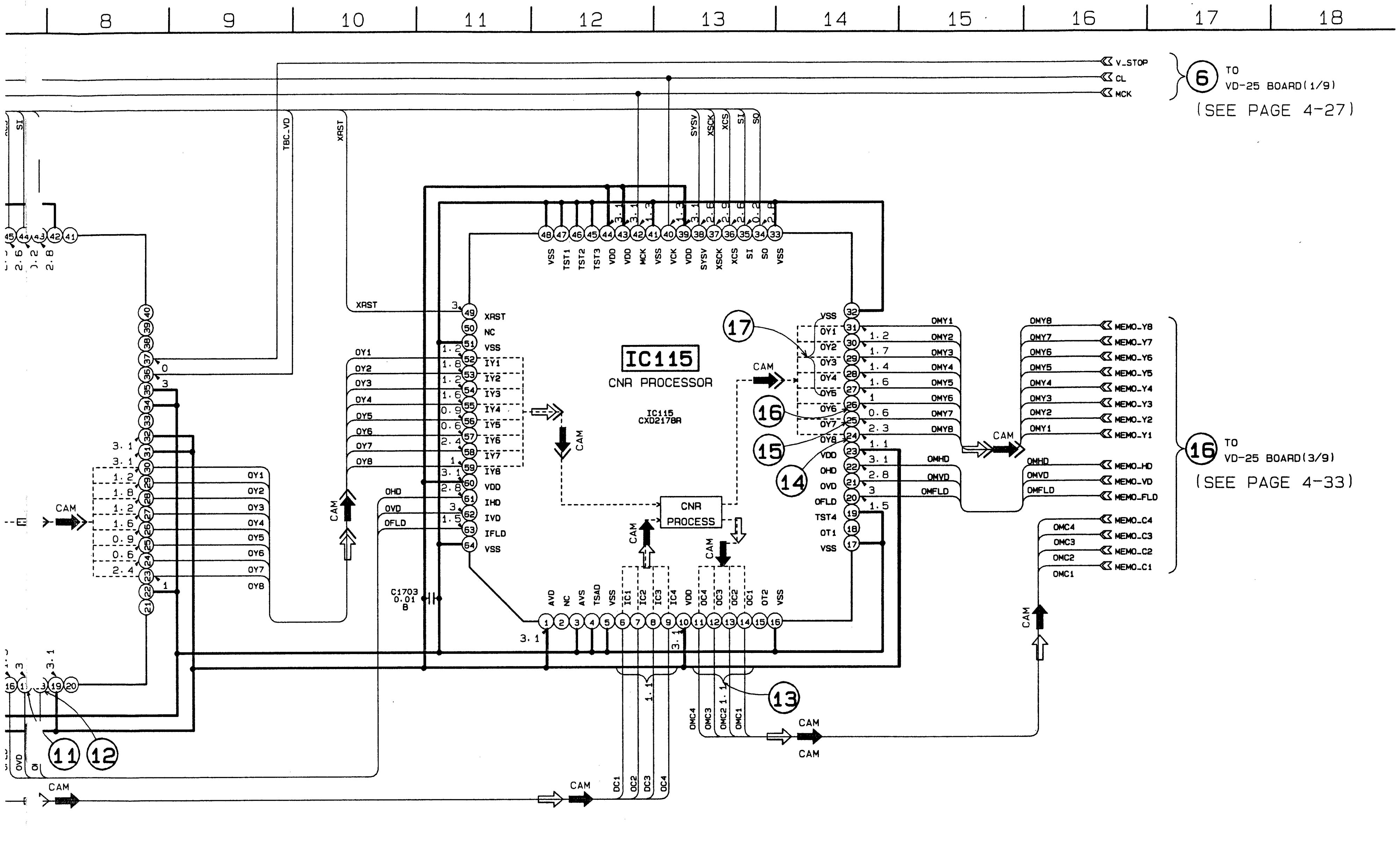
I
VD-25 BOARD(2/9)
(ME BLOCK)
no mark : CAMERA REC mode
TO
VD-25 BOARD(6/9)
(SEE PAGE 4-45)
14
TBC_VD
VXRST_SYSTEM
SYS_V
VC_SO
XCS_SYSTEM
XVC_SCK
VC_SI
XTBC_V_RST
XRST
SYSV
SI
XCS
XSCK
SO
TBC_VRST
TBC_VD
IC114
ZOOM TBC PROCESSOR
IC114
CXD2177BR-T6
ZOOM TBC
PROCESS
CAM
IHD
IVD
IFLD
IY1
IY2
IY3
IY4
IY5
IY6
IY7
IY8
IC1
IC2
IC3
IC4
OY1
OY2
OY3
OY4
OY5
OY6
OY7
OY8
OC1
OC2
OC3
OC4
OFLD
OVD
OHD
TO
VD-25 BOARD(1/9)
(SEE PAGE 4-28)
9
MEMI_Y8
MEMI_Y7
MEMI_Y6
MEMI_Y5
MEMI_Y4
MEMI_Y3
MEMI_Y2
MEMI_Y1
MEMI_HD
MEMI_VD
MEMI_FLD
MEMI_C4
MEMI_C3
MEMI_C2
MEMI_C1
C1702
1
F
L1701
10uH
TO
VD-25 BOARD(1/9)
(SEE PAGE 4-27)
10
CAM_3.2V
REG_GND
11
12
15
TO VD-25 BOARD(3/9)
(SEE PAGE 4-33)
IC115
CNR PROCESSOR
IC115
CXD2178R
CNR
PROCESS
XRST
NC
VSS
VDD
IHD
IVD
IFLD
TST1
TST2
TST3
MCK
VCK
XSCK
XCS
SI
SO
AVD
AVS
TSAD
OT1
OT2
TST4
OMY1
OMY2
OMY3
OMY4
OMY5
OMY6
OMY7
OMY8
OMHD
OMVD
OMFLD
OMC1
OMC2
OMC3
OMC4
C1703
0.01
B
13
16
17
V_STOP
CL
MCK
6
MEMO_Y8
MEMO_Y7
MEMO_Y6
MEMO_Y5
MEMO_Y4
MEMO_Y3
MEMO_Y2
MEMO_Y1
MEMO_HD
MEMO_VD
MEMO_FLD
MEMO_C4
MEMO_C3
MEMO_C2
MEMO_C1
16
(SE
09

• SIGNAL PATH

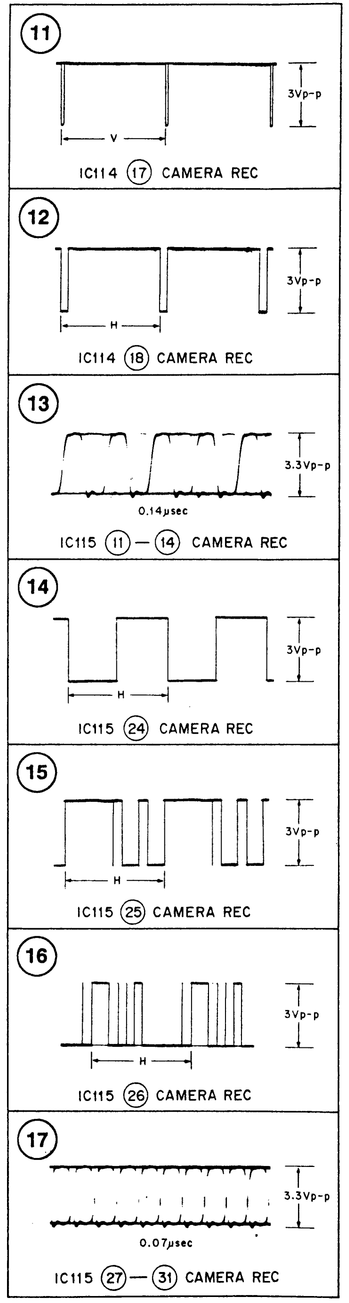
	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡	⇛	
PB	⇨	⇨	


8
9
10
11
12
13
14
15
16
17
18
V_STOP
CL
MCK
⑥ TO
VD-25 BOARD(1/9)
(SEE PAGE 4-27)
IC115
CNR PROCESSOR
IC115
CXD2178R
CNR
PROCESS
CAM
XRST
TBC_VD
SYSV
XSCK
XCS
SI
SO
VSS
TST1
TST2
TST3
VDD
MCK
VCK
NC
IY1
IY2
IY3
IY4
IY5
IY6
IY7
IY8
IHD
IVD
IFLD
OY1
OY2
OY3
OY4
OY5
OY6
OY7
OY8
OHD
OVD
OFLD
TST4
OT1
OT2
AVD
AVS
TSAD
IC1
IC2
IC3
IC4
OC1
OC2
OC3
OC4
OMY1
OMY2
OMY3
OMY4
OMY5
OMY6
OMY7
OMY8
OMHD
OMVD
OMFLD
OMC1
OMC2
OMC3
OMC4
MEMO_Y1
MEMO_Y2
MEMO_Y3
MEMO_Y4
MEMO_Y5
MEMO_Y6
MEMO_Y7
MEMO_Y8
MEMO_HD
MEMO_VD
MEMO_FLD
MEMO_C1
MEMO_C2
MEMO_C3
MEMO_C4
⑯ TO
VD-25 BOARD(3/9)
(SEE PAGE 4-33)
C1703
0.01
B
⑪
⑫
⑬
⑭
⑮
⑯
⑰

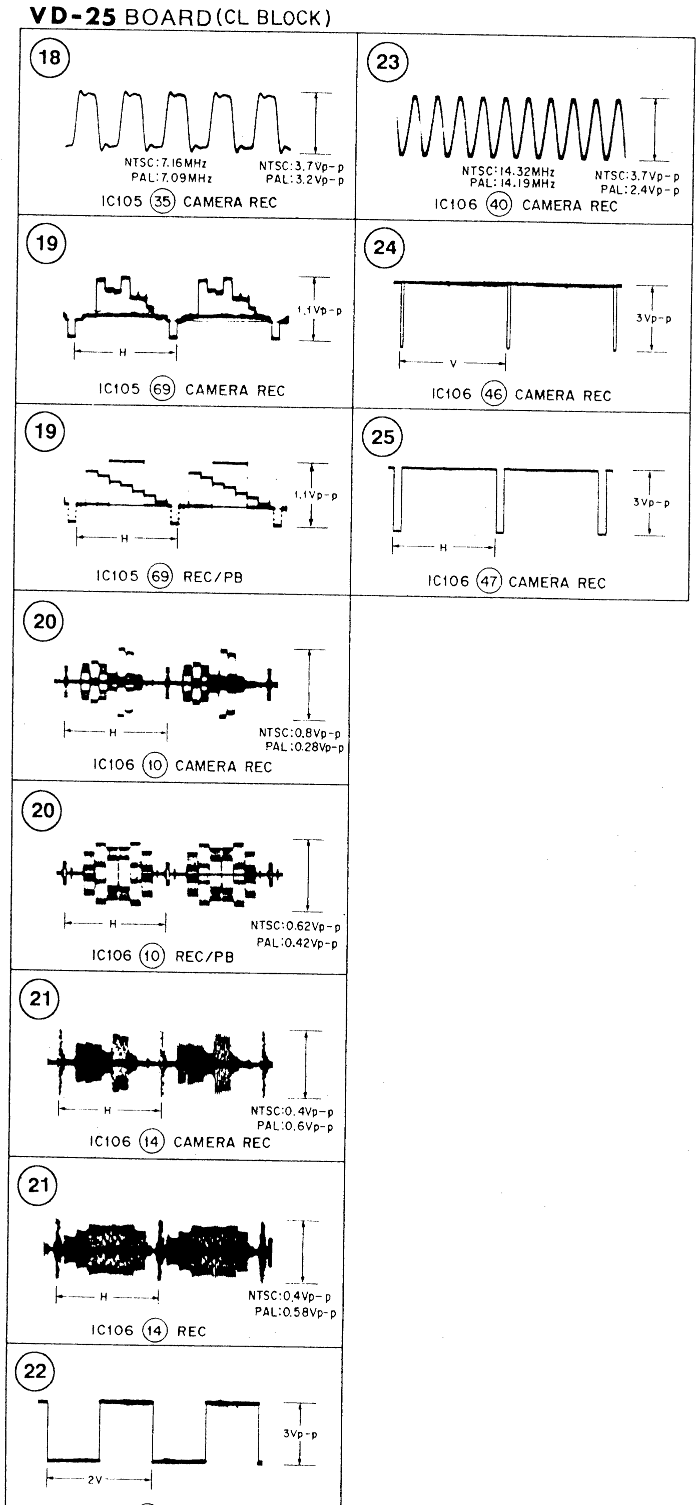
L . ATH

VIDEO SIGNAL		
HR 1A	Y	Y/CHROMA
➡	➡»	
⇨	⇨»	

VD-25 BOARD (ME BLOCK)



VD-25 BOARD(CL BLOCK)

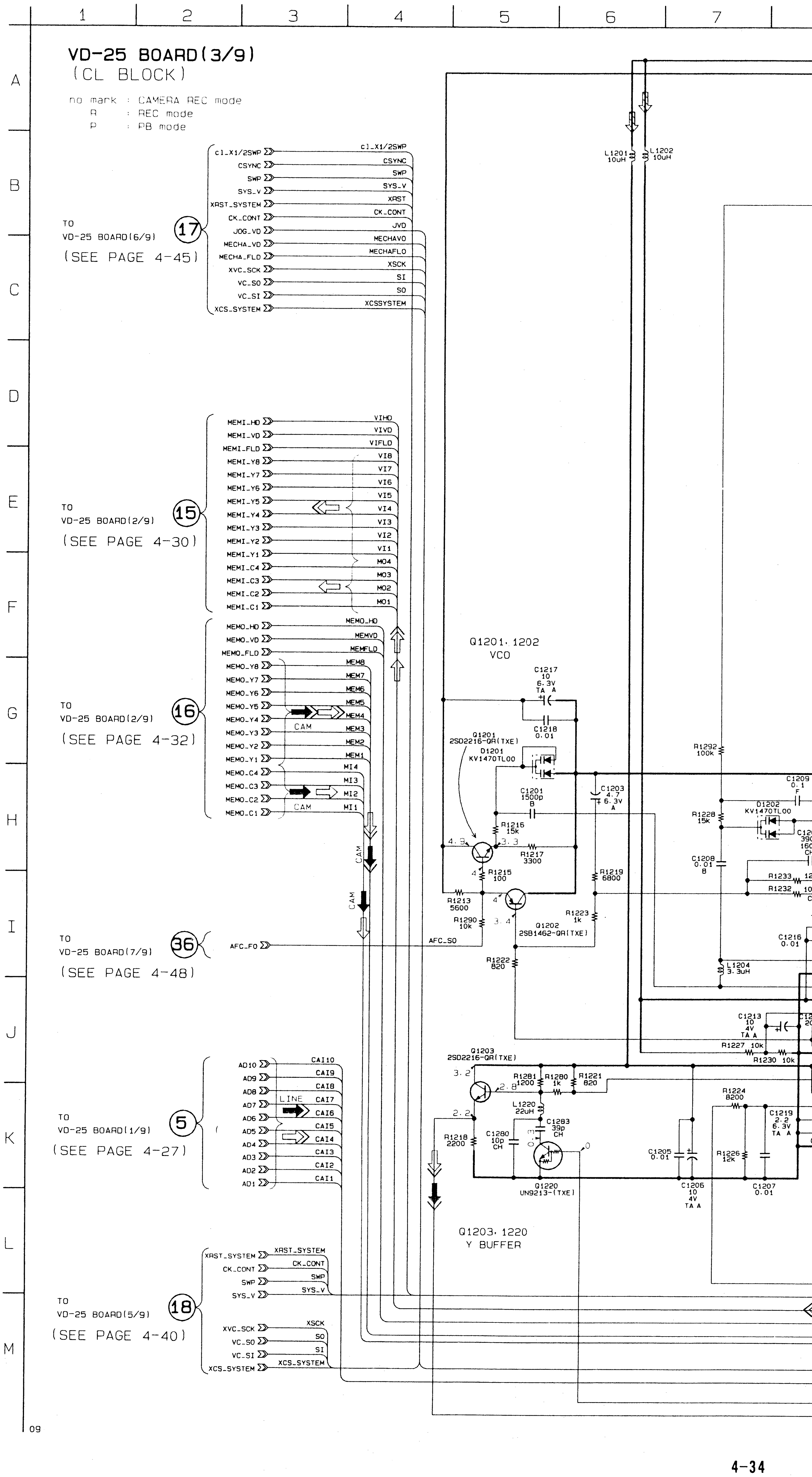


CCD-SC55 :NTSC model
CCD-SC55E:PAL model

VD-25 (Y/C PROCESSOR) SCHEMATIC DIAGRAM

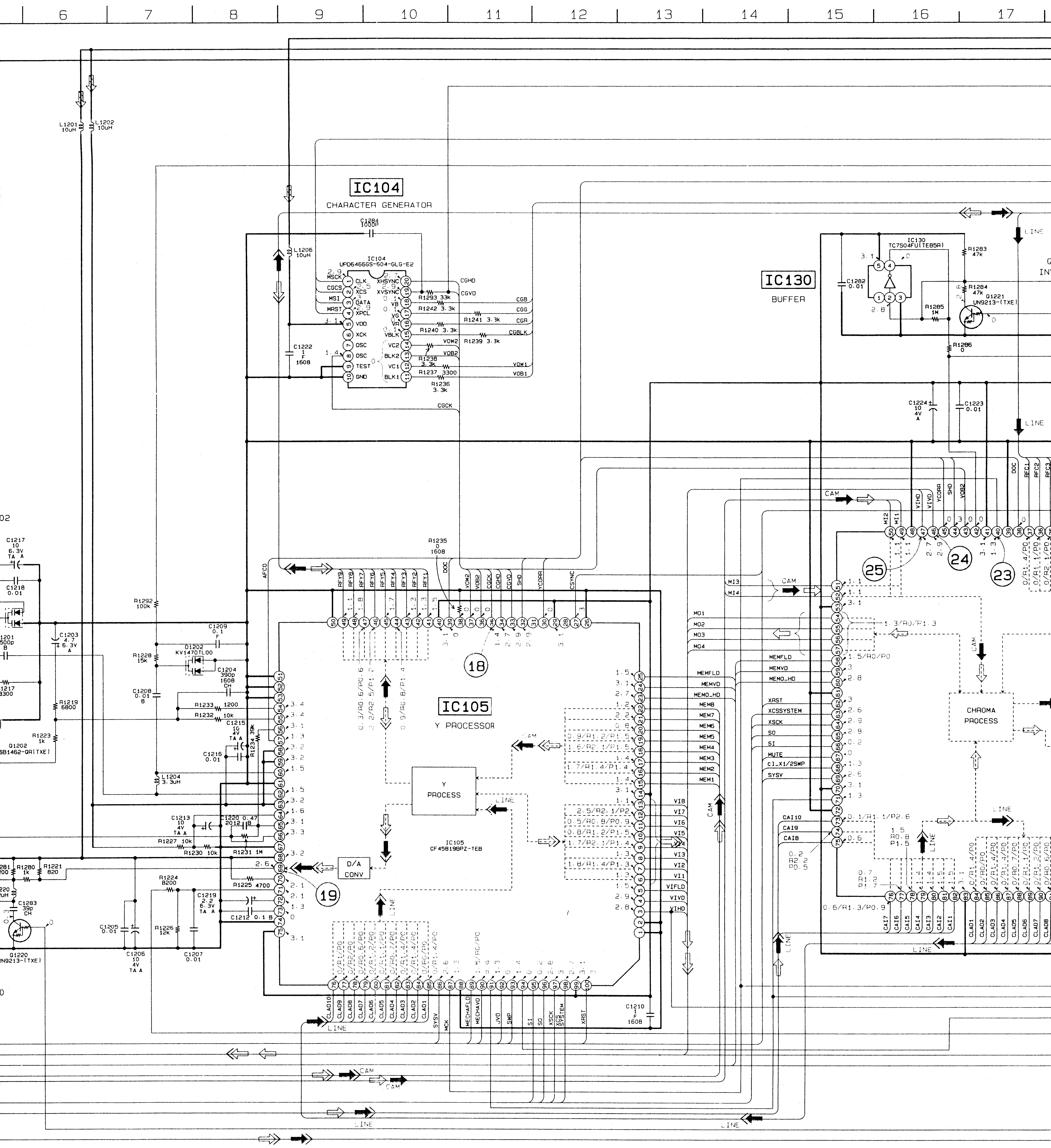
— Ref No. VD-25 BOARD: 2,000 series —

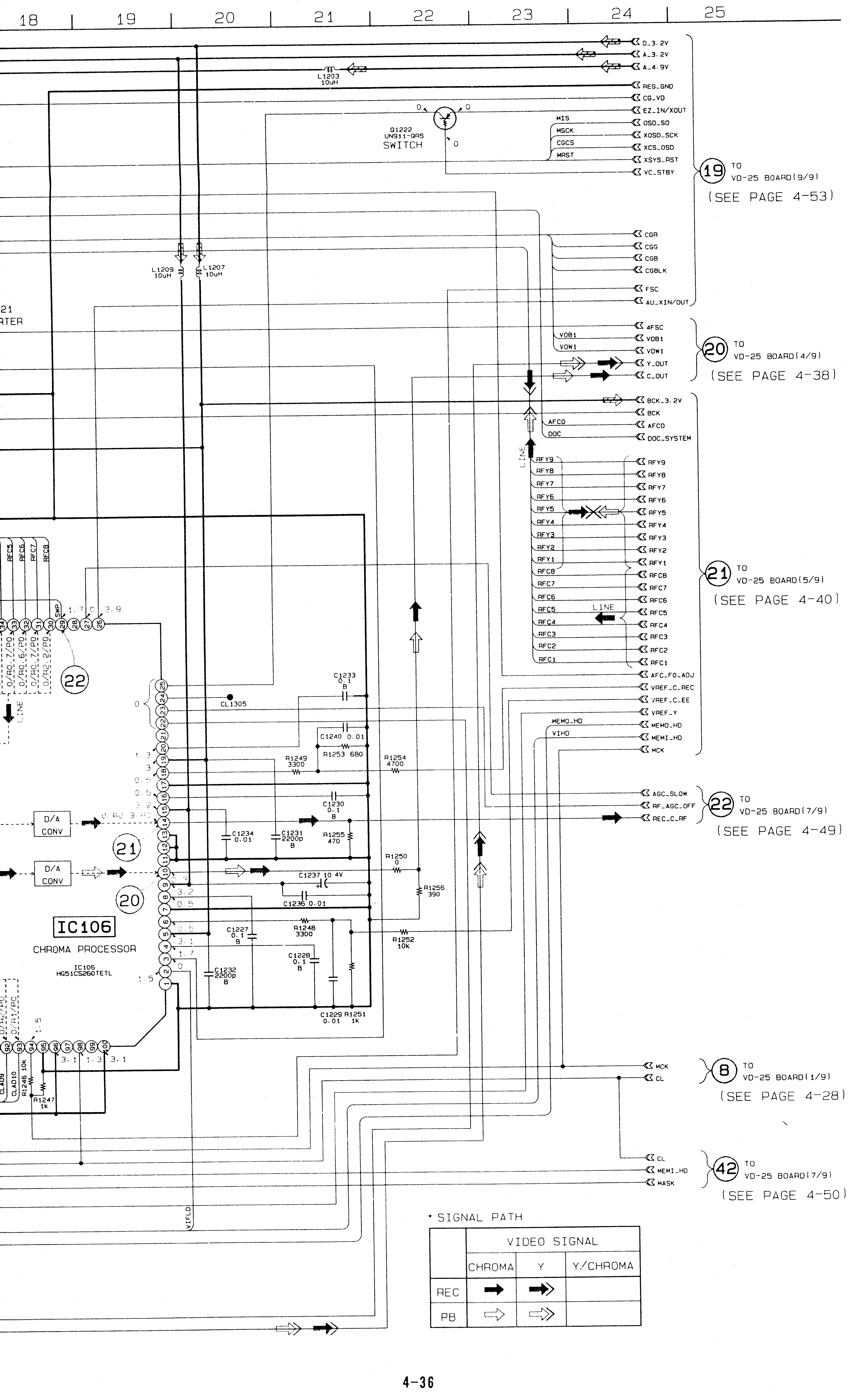
- Refer to page 4-22 for Printed Wiring Board.



1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
J
K
L
M
VD-25 BOARD(3/9)
(CL BLOCK)
no mark : CAMERA REC mode
R : REC mode
P : PB mode
TO
VD-25 BOARD(6/9)
(SEE PAGE 4-45)
(17)
CL_X1/2SWP
CSYNC
SWP
SYS_V
XRST_SYSTEM
CK_CONT
JOG_VD
MECHA_VD
MECHA_FLD
XVC_SCK
VC_SO
VC_SI
XCS_SYSTEM
CL_X1/2SWP
CSYNC
SWP
SYS_V
XRST
CK_CONT
JVD
MECHAVD
MECHAFLD
XSCK
SI
SO
XCSSYSTEM
TO
VD-25 BOARD(2/9)
(SEE PAGE 4-30)
(15)
MEMI_HD
MEMI_VD
MEMI_FLD
MEMI_Y8
MEMI_Y7
MEMI_Y6
MEMI_Y5
MEMI_Y4
MEMI_Y3
MEMI_Y2
MEMI_Y1
MEMI_C4
MEMI_C3
MEMI_C2
MEMI_C1
VIHD
VIVD
VIFLD
VI8
VI7
VI6
VI5
VI4
VI3
VI2
VI1
MO4
MO3
MO2
MO1
TO
VD-25 BOARD(2/9)
(SEE PAGE 4-32)
(16)
MEMO_HD
MEMO_VD
MEMO_FLD
MEMO_Y8
MEMO_Y7
MEMO_Y6
MEMO_Y5
MEMO_Y4
MEMO_Y3
MEMO_Y2
MEMO_Y1
MEMO_C4
MEMO_C3
MEMO_C2
MEMO_C1
MEMO_HD
MEMVD
MEMFLD
MEM8
MEM7
MEM6
MEM5
MEM4
MEM3
MEM2
MEM1
MI4
MI3
MI2
MI1
CAM
TO
VD-25 BOARD(7/9)
(SEE PAGE 4-48)
(36)
AFC_FO
AFC_SO
TO
VD-25 BOARD(1/9)
(SEE PAGE 4-27)
(5)
AD10
AD9
AD8
AD7
AD6
AD5
AD4
AD3
AD2
AD1
CAI10
CAI9
CAI8
CAI7
CAI6
CAI5
CAI4
CAI3
CAI2
CAI1
LINE
TO
VD-25 BOARD(5/9)
(SEE PAGE 4-40)
(18)
XRST_SYSTEM
CK_CONT
SWP
SYS_V
XVC_SCK
VC_SO
VC_SI
XCS_SYSTEM
XRST_SYSTEM
CK_CONT
SWP
SYS_V
XSCK
SO
SI
XCS_SYSTEM
L1201 10uH
L1202 10uH
Q1201, 1202
VCO
C1217 10 6.3V TA A
C1218 0.01
Q1201 2SD2216-QR(TXE)
D1201 KV1470TL00
C1201 1500p B
C1203 4.7 6.3V A
R1216 15k
R1217 3300
R1215 100
R1219 6800
R1213 5600
R1290 10k
Q1202 2SB1462-QR(TXE)
R1223 1k
R1222 820
R1292 100k
R1228 15k
D1202 KV1470TL00
C1209 0.1
C1208 0.01 B
R1233
R1232
C1216 0.01
L1204 3.3uH
C1213 10 4V TA A
R1227 10k
R1230 10k
Q1203 2SD2216-QR(TXE)
R1281 1200
R1280 1k
R1221 820
L1220 22uH
C1283 39p CH
R1218 2200
C1280 10p CH
Q1220 UN9213-(TXE)
C1205 0.01
C1206 10 4V TA A
R1224 8200
C1219 2.2 6.3V TA A
R1226 12k
C1207 0.01
Q1203, 1220
Y BUFFER
4.9
3.3
4.3
4
3.4
3.2
2.8
2.2
0
09

or Printed Wiring Board.

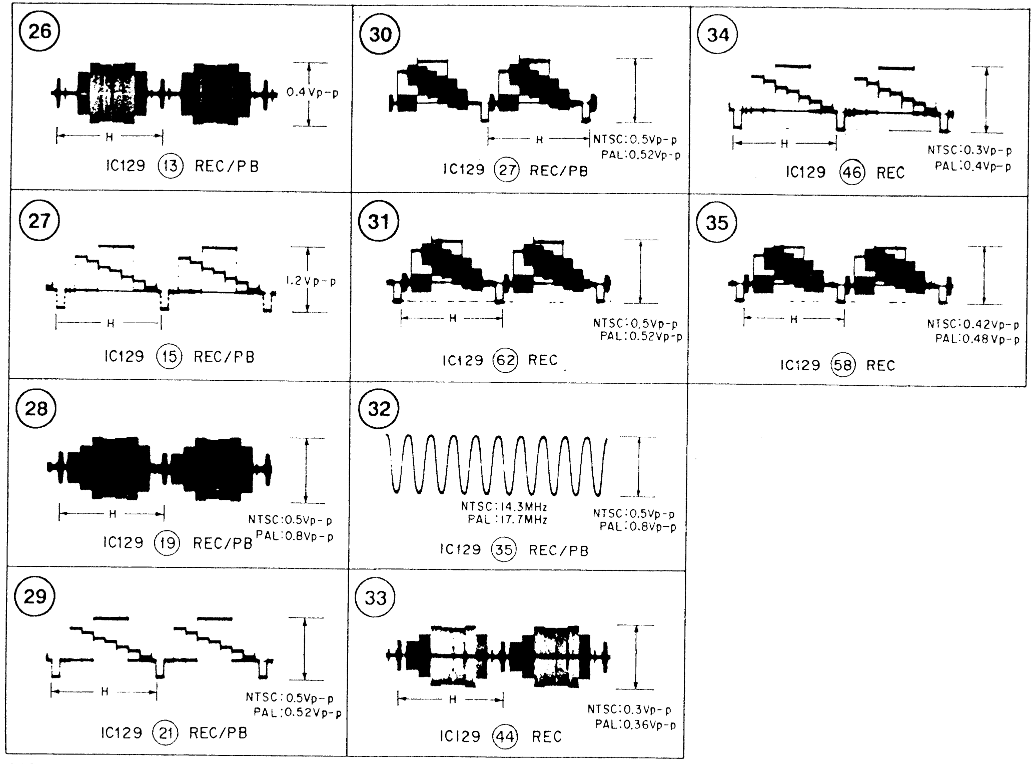

6
7
8
9
10
11
12
13
14
15
16
17
IC104
CHARACTER GENERATOR
IC104
UPD6466GS-504-GLG-E2
IC105
Y PROCESSOR
Y PROCESS
D/A CONV
IC105
CF45819BPZ-TEB
IC130
BUFFER
IC130
TC7S04FU(TE85R)
CHROMA PROCESS
Q1221
UN9213-(TXE)
Q1220
UN9213-(TXE)
Q1202
2SB1462-QR(TXE)
D1202
KV1470TL00
L1201 10uH
L1202 10uH
L1206 10uH
L1204 3.3uH
C1284 1000P
C1222 1 F 1608
C1210 1 F 1608
R1235 0 1608
18
19
23
24
25
CAM
LINE
CLK
XCS
DATA
XPCL
VDD
XCK
OSC
TEST
GND
XHSYNC
XVSYNC
VB
VG
VR
VBLK
VC2
BLK2
VC1
BLK1
CGHD
CGVD
CGB
CGG
CGR
CGBLK
VOW2
VOB2
VOW1
VOB1
CGCK
MSCK
CGCS
MSI
MRST
AFCO
RFY1
RFY2
RFY3
RFY4
RFY5
RFY6
RFY7
RFY8
RFY9
DOC
SHD
YCORR
CSYNC
MO1
MO2
MO3
MO4
MEMFLD
MEMVD
MEMO_HD
MEM1
MEM2
MEM3
MEM4
MEM5
MEM6
MEM7
MEM8
VI1
VI2
VI3
VI4
VI5
VI6
VI7
VI8
VIFLD
VIVD
VIHD
XRST
XCSSYSTEM
XSCK
SO
SI
MUTE
cl_X1/2SWP
SYSV
CAI1
CAI2
CAI3
CAI4
CAI5
CAI6
CAI7
CAI8
CAI9
CAI10
CLAD1
CLAD2
CLAD3
CLAD4
CLAD5
CLAD6
CLAD7
CLAD8
CLAD9
CLAD10
MCK
MECHAFLD
MECHAVD
JVD
SWP
XCS SYSTEM
MI1
MI2
MI3
MI4
REC1
AFC2
AFC3


18
19
20
21
22
23
24
25
D_3.2V
A_3.2V
A_4.9V
L1203 10uH
REG_GND
CG_VD
EZ_IN/XOUT
Q1222 UN911-QAS SWITCH
MIS
MSCK
CGCS
MRST
OSD_SO
XOSD_SCK
XCS_OSD
XSYS_RST
VC_STBY
19 TO VD-25 BOARD(9/9)
(SEE PAGE 4-53)
CGR
CGG
CGB
CGBLK
L1209 10uH
L1207 10uH
FSC
AU_XIN/OUT
4FSC
VOB1
VOW1
Y_OUT
C_OUT
20 TO VD-25 BOARD(4/9)
(SEE PAGE 4-38)
BCK_3.2V
BCK
AFCO
DOC
DOC_SYSTEM
LINE
RFY9
RFY8
RFY7
RFY6
RFY5
RFY4
RFY3
RFY2
RFY1
RFC8
RFC7
RFC6
RFC5
RFC4
RFC3
RFC2
RFC1
21 TO VD-25 BOARD(5/9)
(SEE PAGE 4-40)
AFC_FO_ADJ
VREF_C_REC
VREF_C_EE
VREF_Y
MEMO_HD
MEMI_HD
VIHD
MCK
AGC_SLOW
RF_AGC_OFF
REC_C_RF
22 TO VD-25 BOARD(7/9)
(SEE PAGE 4-49)
C1233 0.1 B
CL1305
C1240 0.01
R1253 680
R1249 3300
R1254 4700
C1230 0.1 B
C1234 0.01
C1231 2200p B
R1255 470
R1250 0
C1237 10 4V
R1256 390
C1236 0.01
C1227 0.1 B
R1248 3300
R1252 10k
C1228 0.1 B
C1232 2200p B
C1229 0.01
R1251 1k
D/A CONV
D/A CONV
IC106
CHROMA PROCESSOR
IC106 HG51CS260TETL
21
20
22
SWP
R1246 10k
R1247 1k
CLAD9
CLAD10
VIFLD
MCK
CL
8 TO VD-25 BOARD(1/9)
(SEE PAGE 4-28)
CL
MEMI_HD
MASK
42 TO VD-25 BOARD(7/9)
(SEE PAGE 4-50)

• SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡	➡〉	
PB	⇨	⇨〉	

VD-25 BOARD (IO BLOCK)

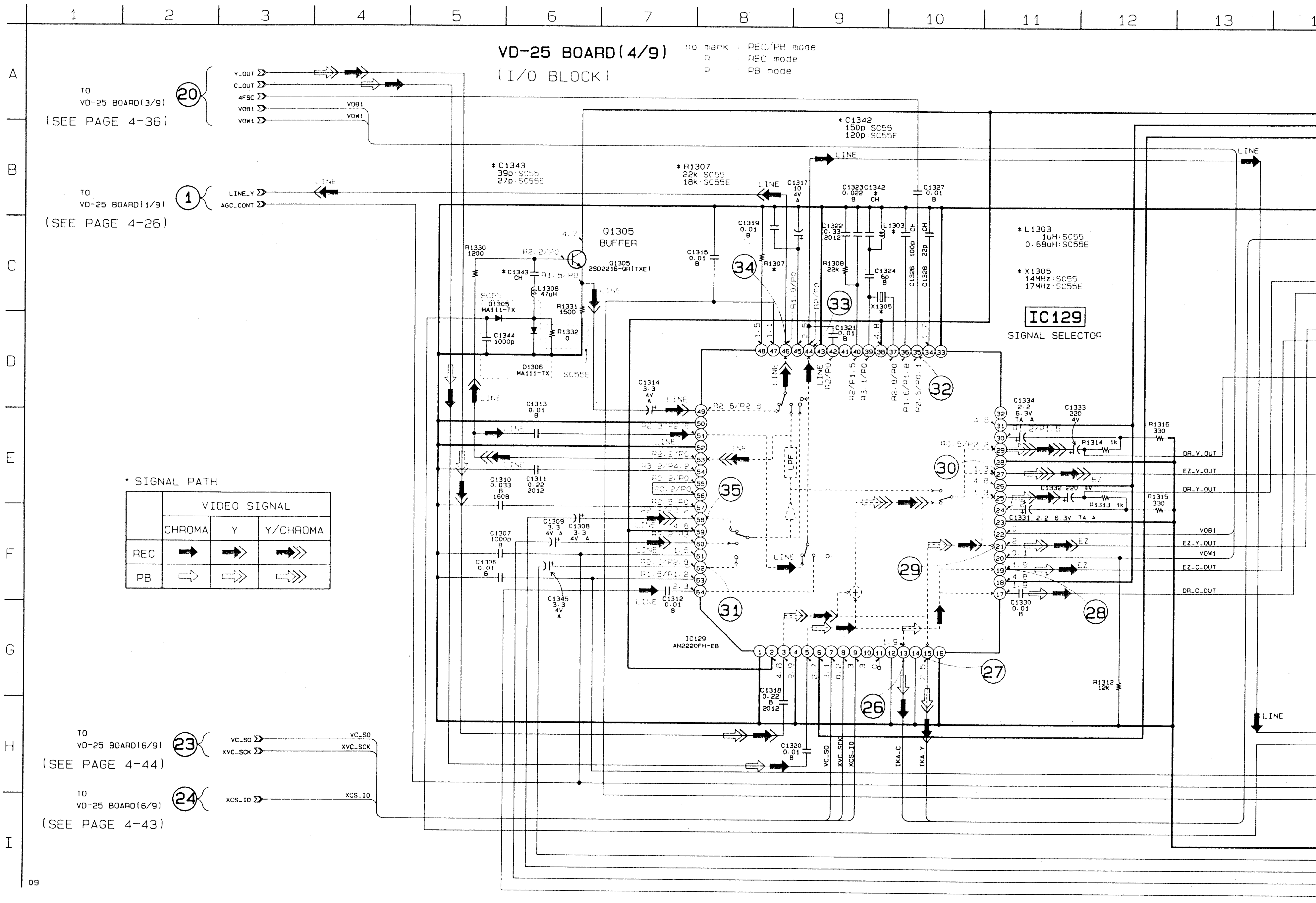


CCD-SC55 :NTSC model
CCD-SC55E:PAL model

VD-25 (VIDEO I/O) SCHEMATIC DIAGRAM

• Refer to page 4-22 for Printed Wiring Board.

— Ref No. VD-25 BOARD: 2,000 series —


1
2
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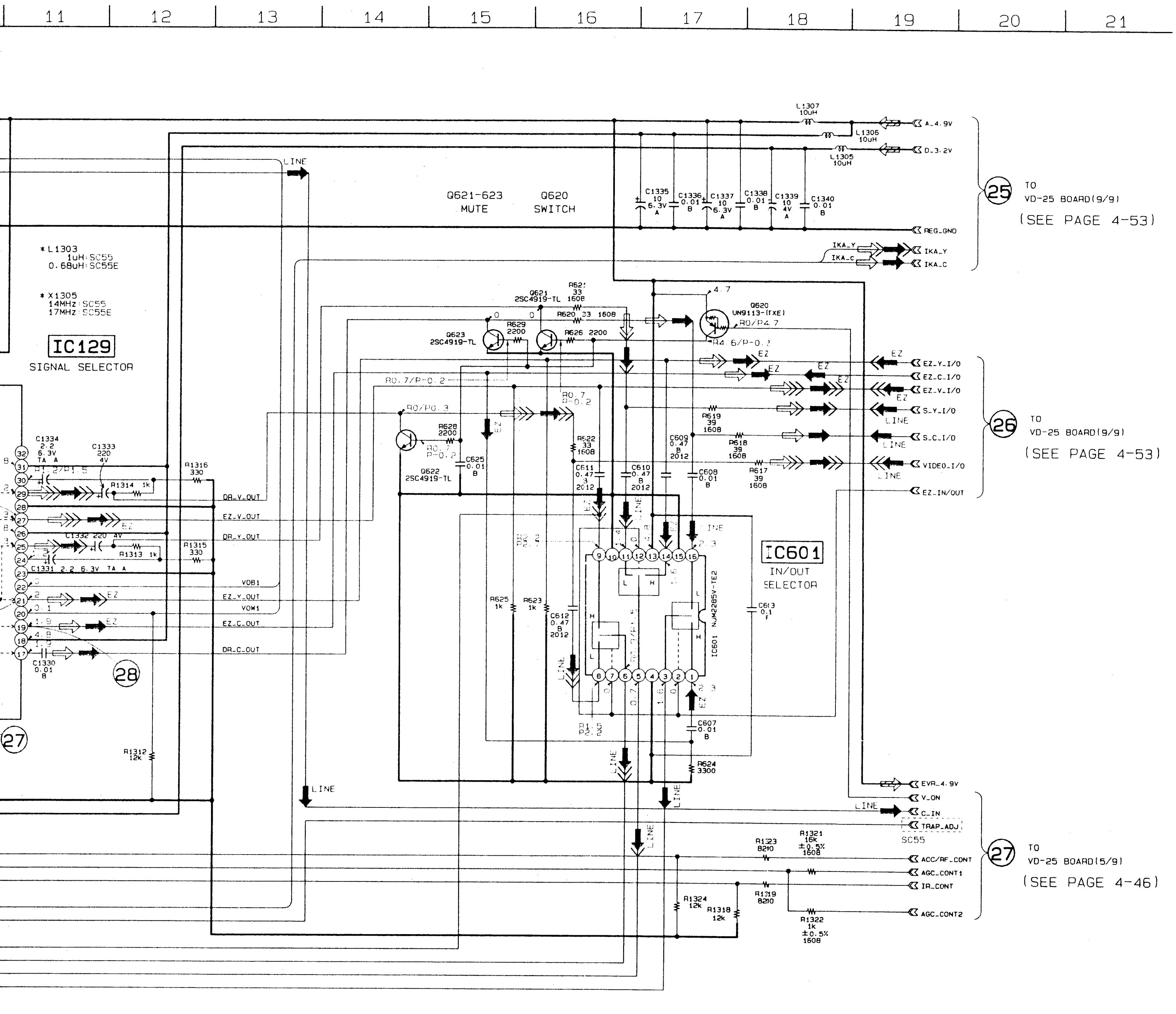
6
7
8
9
10
11
12
13
A
B
C
D
E
F
G
H
I
VD-25 BOARD(4/9)
(I/O BLOCK)
no mark : REC/PB mode
R : REC mode
P : PB mode
TO
VD-25 BOARD(3/9)
(SEE PAGE 4-36)
(20)
Y_OUT
C_OUT
4FSC
VOB1
VOM1
TO
VD-25 BOARD(1/9)
(SEE PAGE 4-26)
(1)
LINE_Y
AGC_CONT
LINE
Q1305
BUFFER
Q1305
2SD2216-QR(TXE)
D1305
MA111-TX
D1306
MA111-TX
L1308
47uH
R1330
1200
R1331
1500
R1332
0
C1344
1000p
*C1343
39p SC55
27p SC55E
*R1307
22k SC55
18k SC55E
*C1342
150p SC55
120p SC55E
C1317
10
4V
C1319
0.01
C1315
0.01
C1322
0.33
2012
C1323
0.022
C1327
0.01
L1303
C1326
1000
C1328
22p
C1324
5p
R1306
22k
X1305
C1321
0.01
*L1303
1uH:SC55
0.68uH:SC55E
*X1305
14MHz:SC55
17MHz:SC55E
IC129
SIGNAL SELECTOR
IC129
AN2220FH-EB
LPF
C1314
3.3
4V
C1313
0.01
C1310
0.033
1608
C1311
0.22
2012
C1309
3.3
4V
C1308
3.3
4V
C1307
1000p
C1306
0.01
C1345
3.3
4V
C1312
0.01
C1318
0.22
2012
C1320
0.01
C1334
2.2
6.3V
C1333
220
4V
R1316
330
R1314
1k
C1332
220
4V
R1313
1k
R1315
330
C1331
2.2
6.3V
C1330
0.01
R1312
12k
DR_Y_OUT
EZ_Y_OUT
DR_Y_OUT
VOB1
EZ_Y_OUT
VOM1
EZ_C_OUT
DR_C_OUT
VC_SO
XVC_SCK
XCS_IO
IKA_C
IKA_Y
TO
VD-25 BOARD(6/9)
(SEE PAGE 4-44)
(23)
VC_SO
XVC_SCK
TO
VD-25 BOARD(6/9)
(SEE PAGE 4-43)
(24)
XCS_IO
(26)
(27)
(28)
(29)
(30)
(31)
(32)
(33)
(34)
(35)
09

• SIGNAL PATH

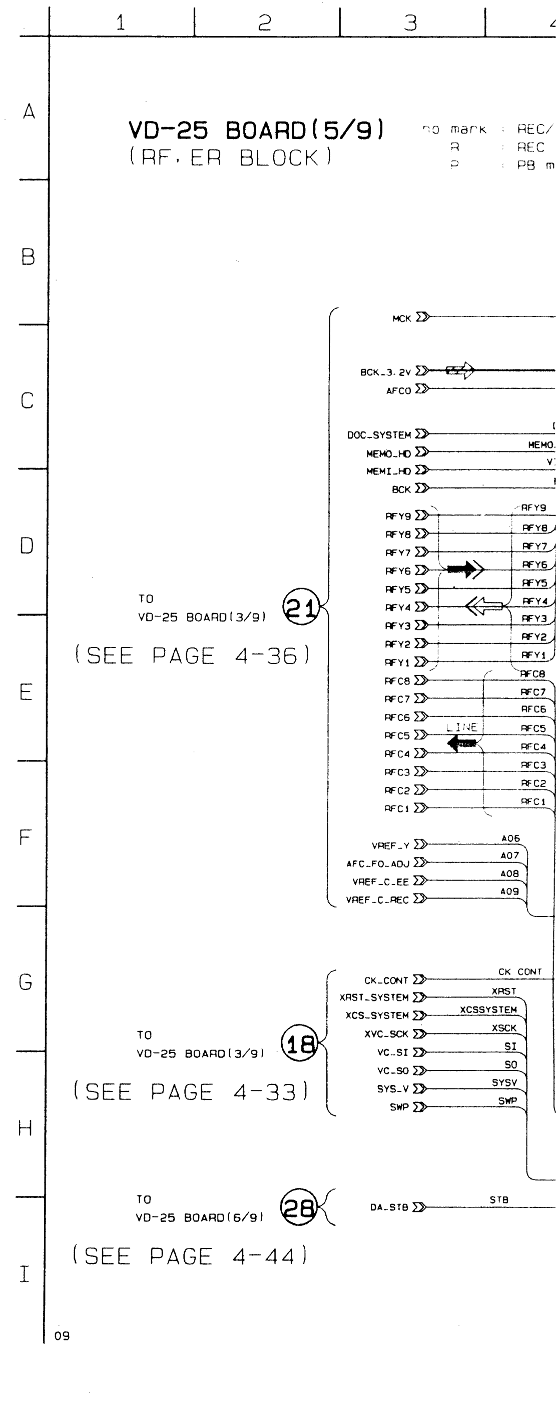
	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡	➡	➡
PB	⇨	⇨	⇨



11
12
13
14
15
16
17
18
19
20
21
L1307 10uH
L1306 10uH
L1305 10uH
A_4.9V
D_3.2V
LINE
Q621-623 MUTE
Q620 SWITCH
C1335 10 6.3V A
C1336 0.01 B
C1337 10 6.3V A
C1338 0.01 B
C1339 10 4V A
C1340 0.01 B
REG_GND
IKA_Y
IKA_C
25
TO VD-25 BOARD(9/9)
(SEE PAGE 4-53)
*L1303 1uH:SC55 0.68uH:SC55E
*X1305 14MHz:SC55 17MHz:SC55E
IC129
SIGNAL SELECTOR
Q621 2SC4919-TL
R621 33 1608
Q620 UN9113-(TX)E
Q623 2SC4919-TL
R629 2200
R626 2200
R620 33 1608
EZ_Y_I/O
EZ_C_I/O
EZ_V_I/O
S_Y_I/O
S_C_I/O
VIDEO_I/O
EZ_IN/OUT
26
TO VD-25 BOARD(9/9)
(SEE PAGE 4-53)
Q622 2SC4919-TL
R628 2200
C625 0.01 B
R622 33 1608
R619 39 1608
R618 39 1608
R617 39 1608
C609 0.47 B 2012
C611 0.47 B 2012
C610 0.47 B 2012
C608 0.01 B
C1334 2.2 6.3V TA A
C1333 220 4V
R1314 1k
R1316 330
R1315 330
R1313 1k
C1332 220 4V
C1331 2.2 6.3V TA A
C1330 0.01 B
DR_V_OUT
EZ_V_OUT
DR_Y_OUT
VOB1
EZ_Y_OUT
VOW1
EZ_C_OUT
DR_C_OUT
28
27
IC601
IN/OUT SELECTOR
IC601 NJM2285V-TE2
R625 1k
R623 1k
C612 0.47 B 2012
C613 0.1 F
C607 0.01 B
R624 3300
R1312 12k
EVR_4.9V
V_ON
C_IN
TRAP_ADJ
SC55
R1321 18k ±0.5% 1608
R1123 8200
ACC/RF_CONT
AGC_CONT1
IR_CONT
AGC_CONT2
R1324 12k
R1318 12k
R1319 8200
R1322 1k ±0.5% 1608
TO VD-25 BOARD(5/9)
(SEE PAGE 4-46)

VD-25 (VIDEO PROCESSOR) SCHEMATIC

— Ref No. VD-25 BOARD: 2,000 series —

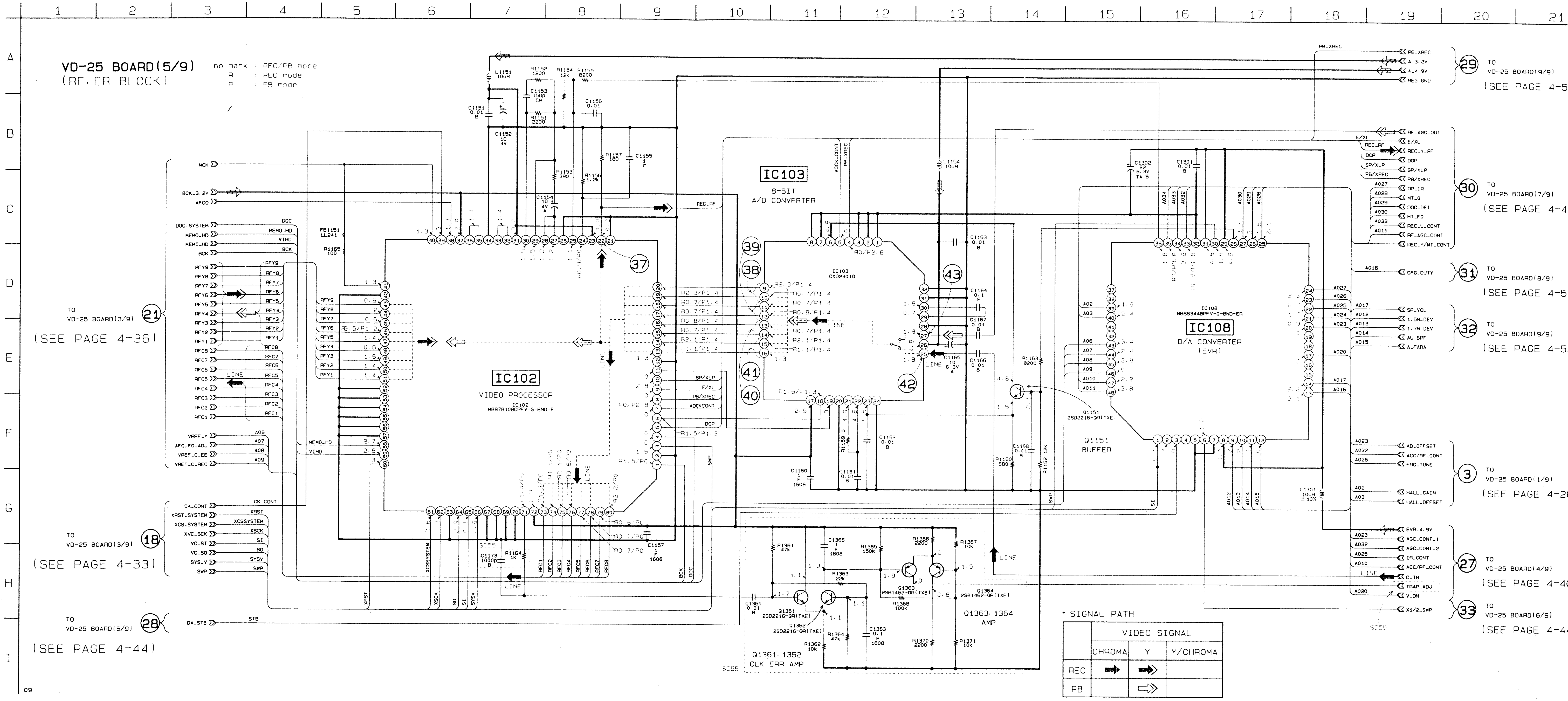


1
2
3
A
B
C
D
E
F
G
H
I
VD-25 BOARD(5/9)
(RF, ER BLOCK)
no mark : REC/
R : REC
P : PB m
MCK
BCK_3.2V
AFCO
DOC_SYSTEM
MEMO_HD
MEMI_HD
BCK
RFY9
RFY8
RFY7
RFY6
RFY5
RFY4
RFY3
RFY2
RFY1
RFC8
RFC7
RFC6
RFC5
RFC4
RFC3
RFC2
RFC1
LINE
21
TO VD-25 BOARD(3/9)
(SEE PAGE 4-36)
VREF_Y
AFC_FO_ADJ
VREF_C_EE
VREF_C_REC
A06
A07
A08
A09
CK_CONT
XRST_SYSTEM
XCS_SYSTEM
XVC_SCK
VC_SI
VC_SO
SYS_V
SWP
XRST
XCSSYSTEM
XSCK
SI
SO
SYSV
18
TO VD-25 BOARD(3/9)
(SEE PAGE 4-33)
DA_STB
STB
28
TO VD-25 BOARD(6/9)
(SEE PAGE 4-44)
09

VD-25 (VIDEO PROCESSOR) SCHEMATIC DIAGRAM

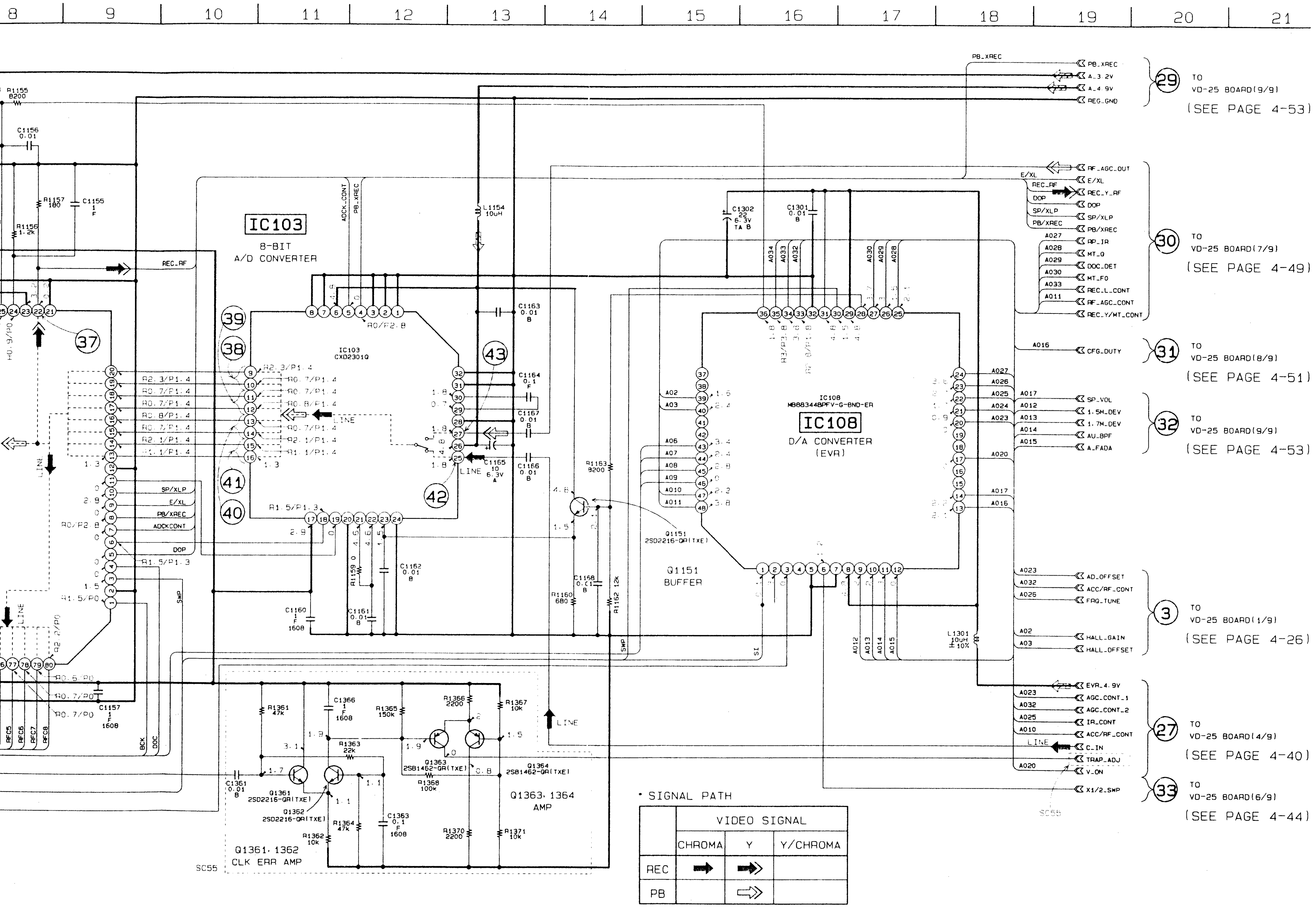
• Refer to page 4-22 for Printed Wiring Board.

— Ref No. VD-25 BOARD: 2,000 series —



VD-25 BOARD (5/9)
(RF, ER BLOCK)
no mark : REC/PB mode
R : REC mode
P : PB mode
IC102
VIDEO PROCESSOR
IC102 MB87B108DPFV-G-BND-E
IC103
8-BIT A/D CONVERTER
IC103 CXD2301Q
IC108
D/A CONVERTER (EVR)
IC108 MB88344BPFV-G-BND-ER
Q1151 BUFFER
Q1151 2SD2216-QR(TXE)
Q1361, 1362 CLK ERR AMP
Q1361 2SD2216-QR(TXE)
Q1362 2SD2216-QR(TXE)
Q1363, 1364 AMP
Q1363 2SB1462-QR(TXE)
Q1364 2SB1462-QR(TXE)
TO VD-25 BOARD(3/9) (21) (SEE PAGE 4-36)
TO VD-25 BOARD(3/9) (18) (SEE PAGE 4-33)
TO VD-25 BOARD(6/9) (28) (SEE PAGE 4-44)
(29) TO VD-25 BOARD(9/9) (SEE PAGE 4-5
(30) TO VD-25 BOARD(7/9) (SEE PAGE 4-4
(31) TO VD-25 BOARD(8/9) (SEE PAGE 4-5
(32) TO VD-25 BOARD(9/9) (SEE PAGE 4-5
(3) TO VD-25 BOARD(1/9) (SEE PAGE 4-2
(27) TO VD-25 BOARD(4/9) (SEE PAGE 4-4
(33) TO VD-25 BOARD(6/9) (SEE PAGE 4-4
MCK
BCK_3.2V
AFCO
DOC_SYSTEM
MEMO_HD
MEMI_HD
BCK
RFY9
RFY8
RFY7
RFY6
RFY5
RFY4
RFY3
RFY2
RFY1
RFC8
RFC7
RFC6
RFC5
RFC4
RFC3
RFC2
RFC1
VREF_Y
AFC_FO_ADJ
VREF_C_EE
VREF_C_REC
CK_CONT
XRST_SYSTEM
XCS_SYSTEM
XVC_SCK
VC_SI
VC_SO
SYS_V
SWP
DA_STB
PB_XREC
A_3.2V
A_4.9V
REG_GND
RF_AGC_OUT
E/XL
REC_Y_RF
DOP
SP/XLP
PB/XREC
RP_IR
MT_Q
DOC_DET
MT_FO
REC_L_CONT
RF_AGC_CONT
REC_Y/MT_CONT
CFG_DUTY
SP_VOL
1.5M_DEV
1.7M_DEV
AU_BPF
A_FADA
AD_OFFSET
ACC/RF_CONT
FRQ_TUNE
HALL_GAIN
HALL_OFFSET
EVR_4.9V
AGC_CONT_1
AGC_CONT_2
IR_CONT
ACC/RF_CONT
C_IN
TRAP_ADJ
Y_ON
X1/2_SWP
REC_RF
LINE
L1151 10uH
R1152 1200
R1154 12k
R1155 8200
C1153 150p CH
C1151 0.01 B
C1152 10 4V
R1151 2200
C1156 0.01
R1157 180
C1155 1 F
R1153 390
R1156 1.2k
C1154 10 4V
FB1151 LL241
R1165 100
C1302 22 6.3V TA B
C1301 0.01 B
L1154 10uH
C1153 0.01 B
C1164 0.1 F
C1167 0.01 B
C1165 10 6.3V
C1166 0.01 B
R1153 8200
R1159
C1162 0.01 B
C1160 1608
C1161 0.01 B
C1158 0.01 B
R1160 680
R1162 12k
L1301 10uH 10%
C1173 1000p B
R1164 1k
C1157 1 F 1608
R1361 47k
C1366 1 F 1608
R1365 150k
R1366 2200
R1367 10k
R1363 22k
C1361 0.01 B
R1368 100k
R1364 47k
C1363 0.1 F 1608
R1362 10k
R1370 2200
R1371 10k
SIGNAL PATH
VIDEO SIGNAL
CHROMA
Y
Y/CHROMA
REC
PB
09

oard.



8
9
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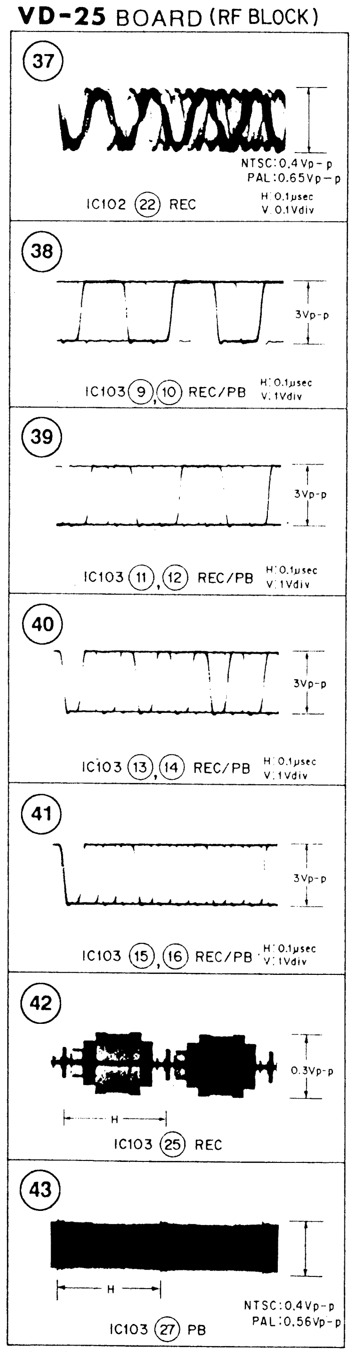
16
17
18
19
20
21
IC103
8-BIT
A/D CONVERTER
IC103
CXD2301Q
IC108
MB88344BPFV-G-BND-ER
IC108
D/A CONVERTER
(EVR)
Q1151
2SD2216-QR(TXE)
Q1151
BUFFER
Q1361
2SD2216-QR(TXE)
Q1362
2SD2216-QR(TXE)
Q1363
2SB1462-QR(TXE)
Q1364
2SB1462-QR(TXE)
Q1363, 1364
AMP
Q1361, 1362
CLK ERR AMP
LINE
SC55
PB_XREC
A_3.2V
A_4.9V
REG_GND
TO
VD-25 BOARD(9/9)
(SEE PAGE 4-53)
RF_AGC_OUT
E/XL
REC_Y_RF
DOP
SP/XLP
PB/XREC
RP_IR
MT_Q
DOC_DET
MT_FO
REC_L_CONT
RF_AGC_CONT
REC_Y/MT_CONT
TO
VD-25 BOARD(7/9)
(SEE PAGE 4-49)
CFG_DUTY
TO
VD-25 BOARD(8/9)
(SEE PAGE 4-51)
SP_VOL
1.5M_DEV
1.7M_DEV
AU_BPF
A_FADA
TO
VD-25 BOARD(9/9)
(SEE PAGE 4-53)
AD_OFFSET
ACC/RF_CONT
FRQ_TUNE
HALL_GAIN
HALL_OFFSET
TO
VD-25 BOARD(1/9)
(SEE PAGE 4-26)
EVR_4.9V
AGC_CONT_1
AGC_CONT_2
IR_CONT
ACC/RF_CONT
C_IN
TRAP_ADJ
V_ON
TO
VD-25 BOARD(4/9)
(SEE PAGE 4-40)
X1/2_SWP
TO
VD-25 BOARD(6/9)
(SEE PAGE 4-44)

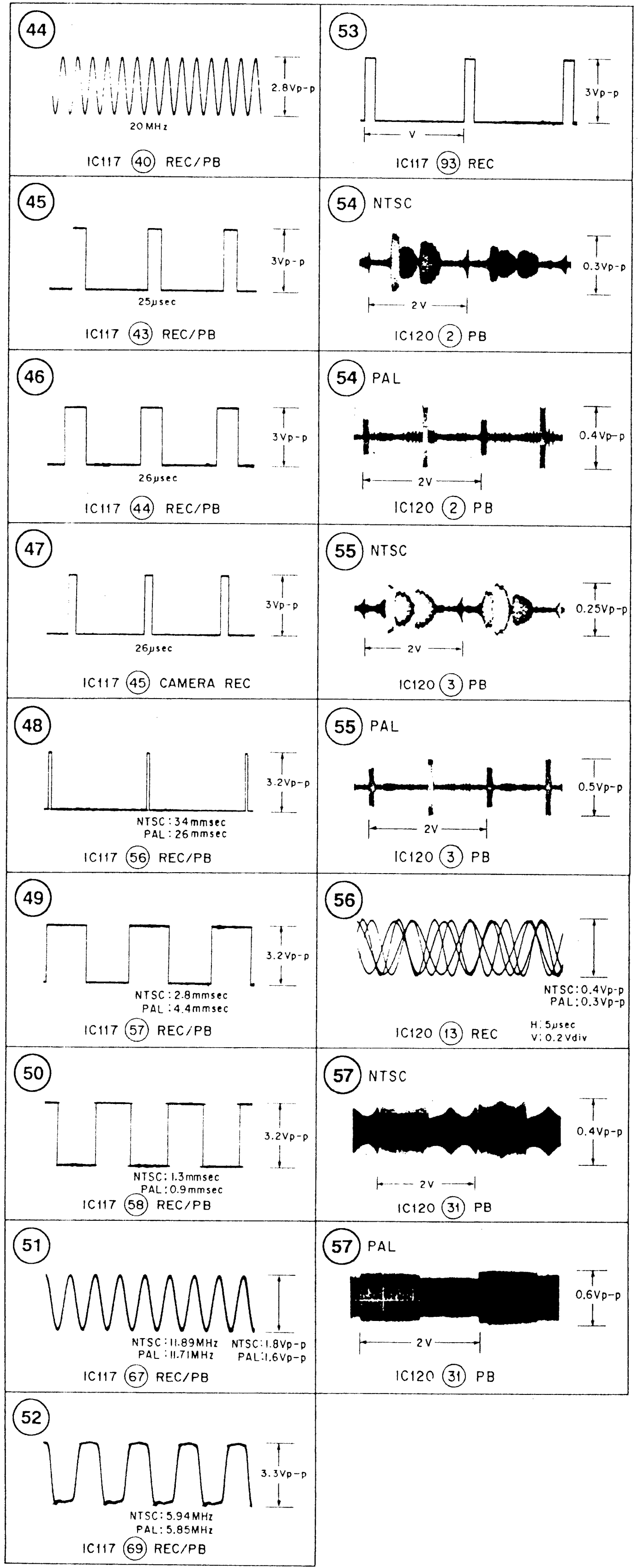
• SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡	⇛	
PB		⇨	



CCD-SC55 : NTSC model
CCD-SC55E : PAL model

VD-25 BOARD (MC BLOCK)

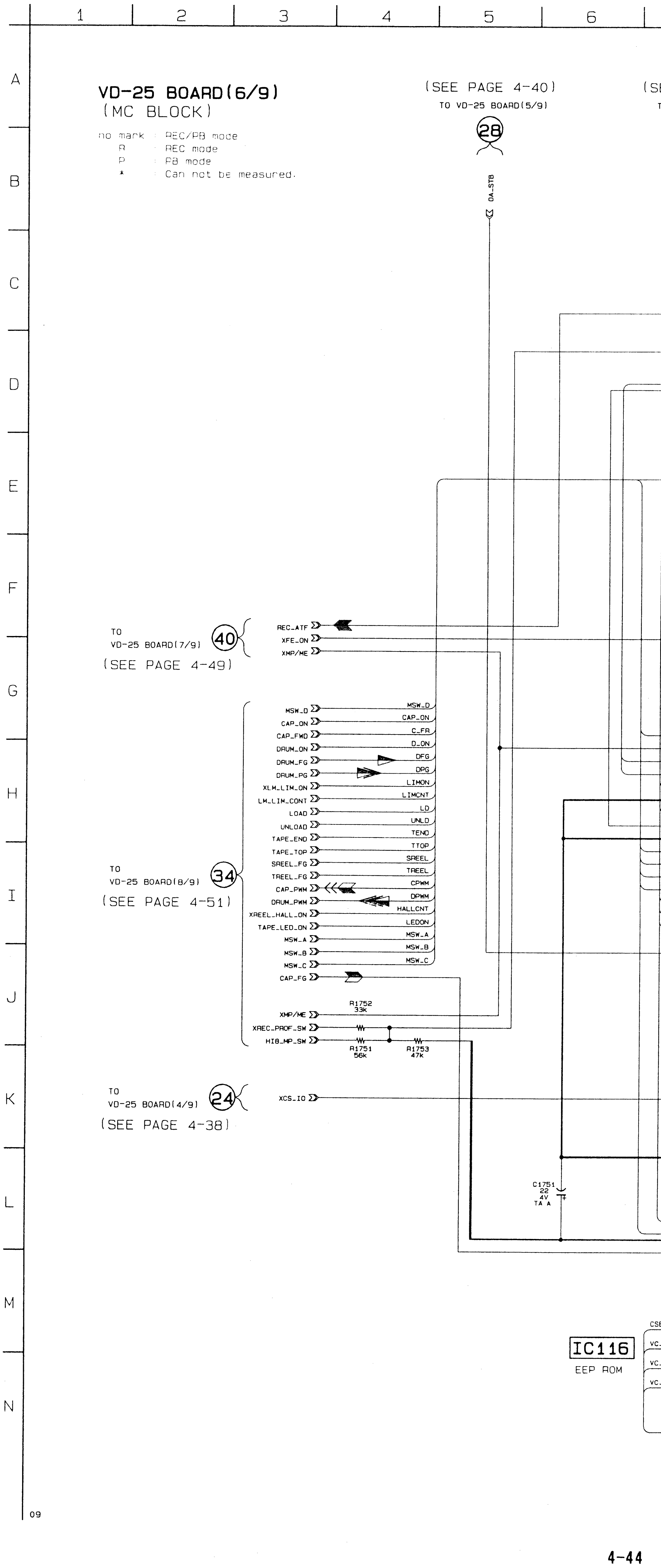


CCD-SC55 : NTSC model
CCD-SC55E : PAL model

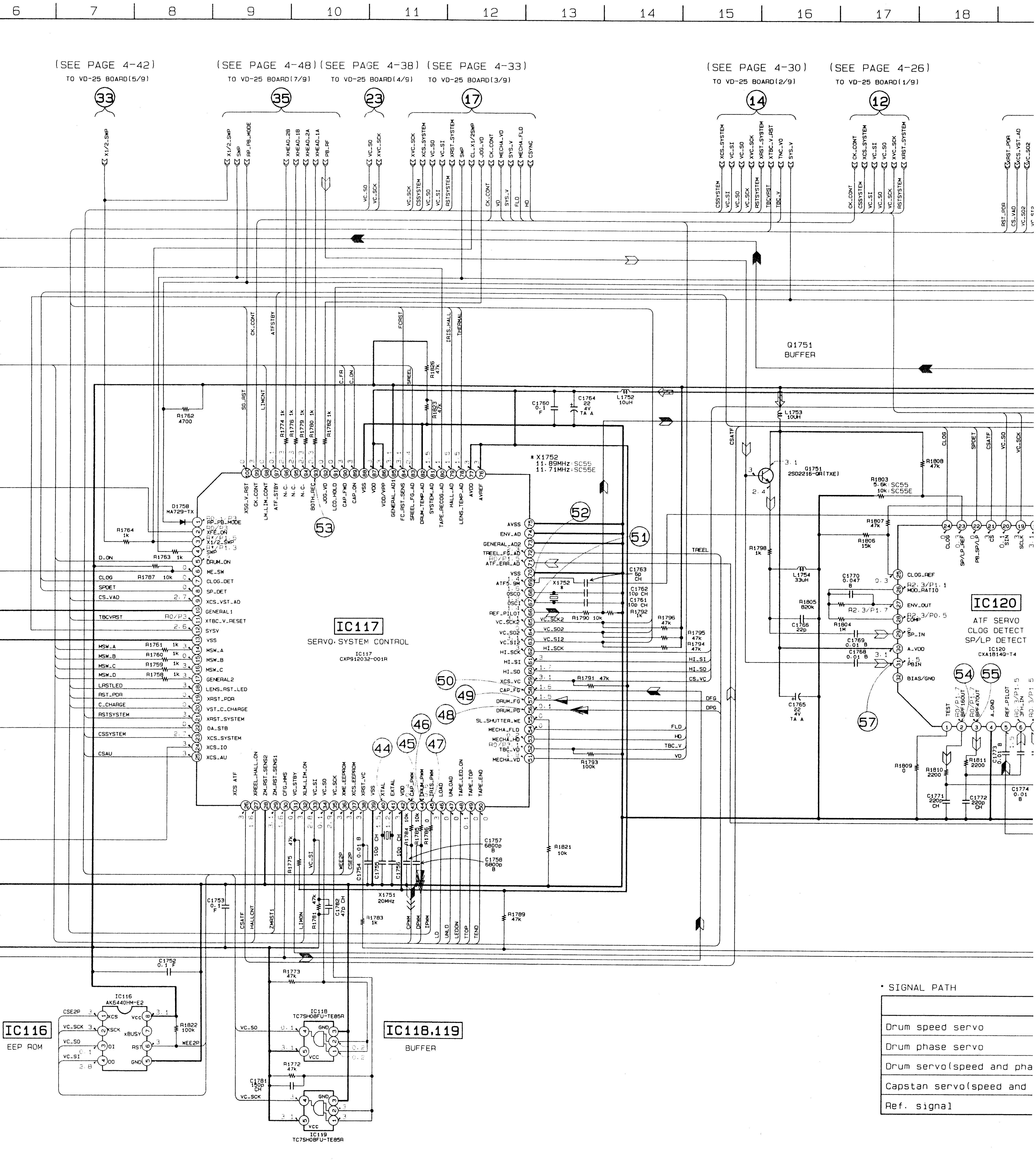
VD-25 (SERVO SYSTEM CONTROL) SCHEMATIC DIAGRAM

— Ref No. VD-25 BOARD: 2,000 series —

• Refer to page 4-22 f


1
2
3
4
5
6
A
B
C
D
E
F
G
H
I
J
K
L
M
N
VD-25 BOARD (6/9)
(MC BLOCK)
no mark : REC/PB mode
R : REC mode
P : PB mode
* : Can not be measured.
(SEE PAGE 4-40)
TO VD-25 BOARD (5/9)
28
DA_STB
(S
T
TO
VD-25 BOARD (7/9)
40
(SEE PAGE 4-49)
REC_ATF
XFE_ON
XMP/ME
MSW_D
CAP_ON
CAP_FWD
DRUM_ON
DRUM_FG
DRUM_PG
XLM_LIM_ON
LM_LIM_CONT
LOAD
UNLOAD
TAPE_END
TAPE_TOP
SREEL_FG
TREEL_FG
CAP_PWM
DRUM_PWM
XREEL_HALL_ON
TAPE_LED_ON
MSW_A
MSW_B
MSW_C
CAP_FG
MSW_D
CAP_ON
C_FR
D_ON
DFG
DPG
LIMON
LIMCNT
LD
UNLD
TEND
TTOP
SREEL
TREEL
CPWM
DPWM
HALLCNT
LEDON
MSW_A
MSW_B
MSW_C
TO
VD-25 BOARD (8/9)
34
(SEE PAGE 4-51)
R1752
33k
XMP/ME
XREC_PROF_SW
HI8_MP_SW
R1751
56k
R1753
47k
TO
VD-25 BOARD (4/9)
24
(SEE PAGE 4-38)
XCS_IO
C1751
22
4V
TA A
IC116
EEP ROM
CSE
VC.
VC.
VC.
09

r to page 4–22 for Printed Wiring Board.



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14
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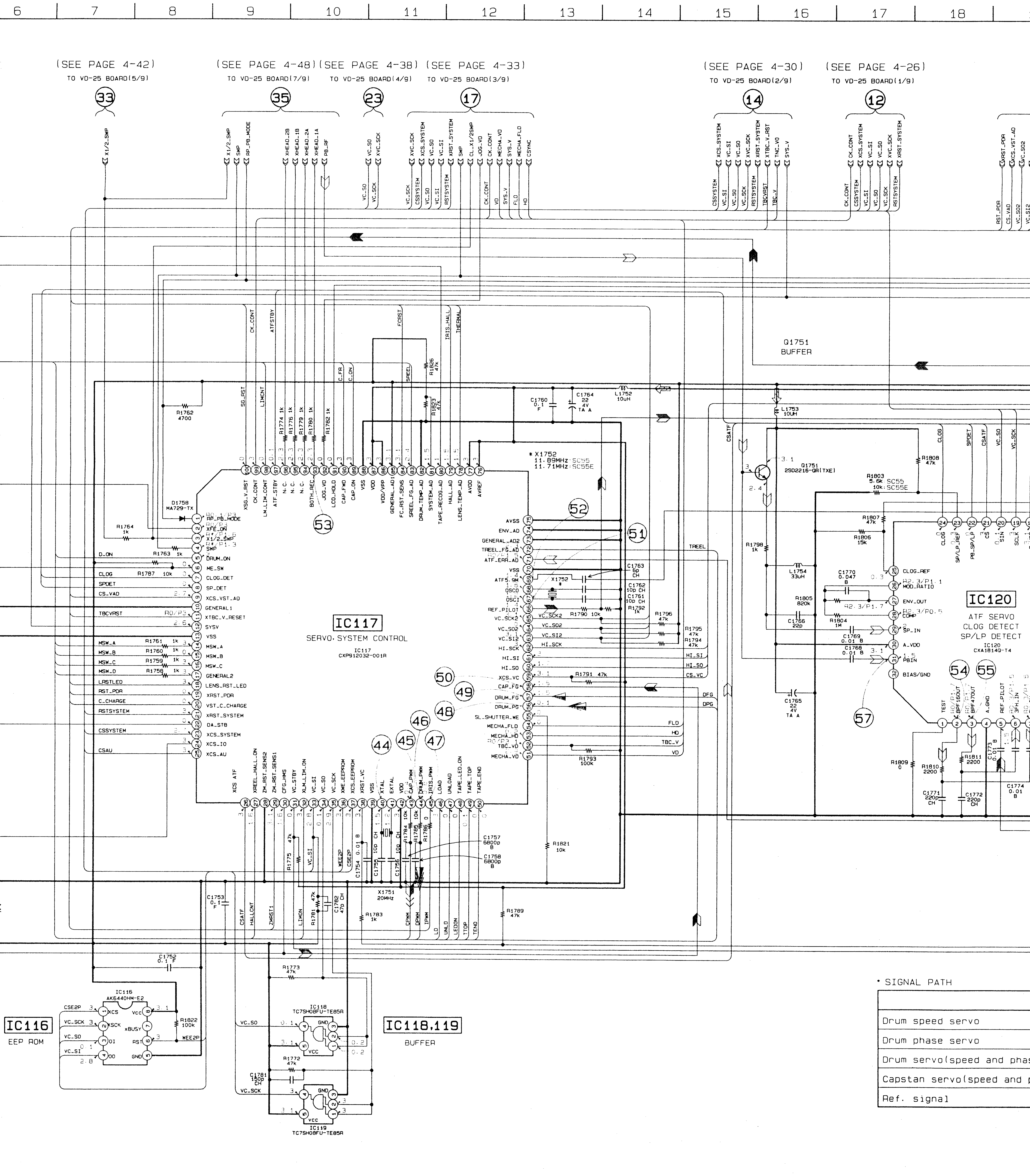
16
17
18
(SEE PAGE 4-42)
TO VD-25 BOARD(5/9)
33
(SEE PAGE 4-48)
TO VD-25 BOARD(7/9)
35
(SEE PAGE 4-38)
TO VD-25 BOARD(4/9)
23
(SEE PAGE 4-33)
TO VD-25 BOARD(3/9)
17
(SEE PAGE 4-30)
TO VD-25 BOARD(2/9)
14
(SEE PAGE 4-26)
TO VD-25 BOARD(1/9)
12
Q1751
BUFFER
IC117
SERVO· SYSTEM CONTROL
IC117
CXP912032-001R
IC120
ATF SERVO
CLOG DETECT
SP/LP DETECT
IC120
CXA1814Q-T4
IC116
EEP ROM
IC116
AK6440HM-E2
IC118,119
BUFFER
IC118
TC7SH08FU-TE85R
IC119
TC7SH08FU-TE85R
X1751
20MHz
* X1752
11.89MHz:SC55
11.71MHz:SC55E
Q1751
2SD2216-QR(TXE)
L1752
10uH
L1753
10uH
L1754
33uH
D1758
MA729-TX
44
45
46
47
48
49
50
51
52
53
54
55
57

- SIGNAL PATH

Drum speed servo
Drum phase servo
Drum servo(speed and pha
Capstan servo(speed and
Ref. signal

er to page 4-22 for Printed Wiring Board.


6
7
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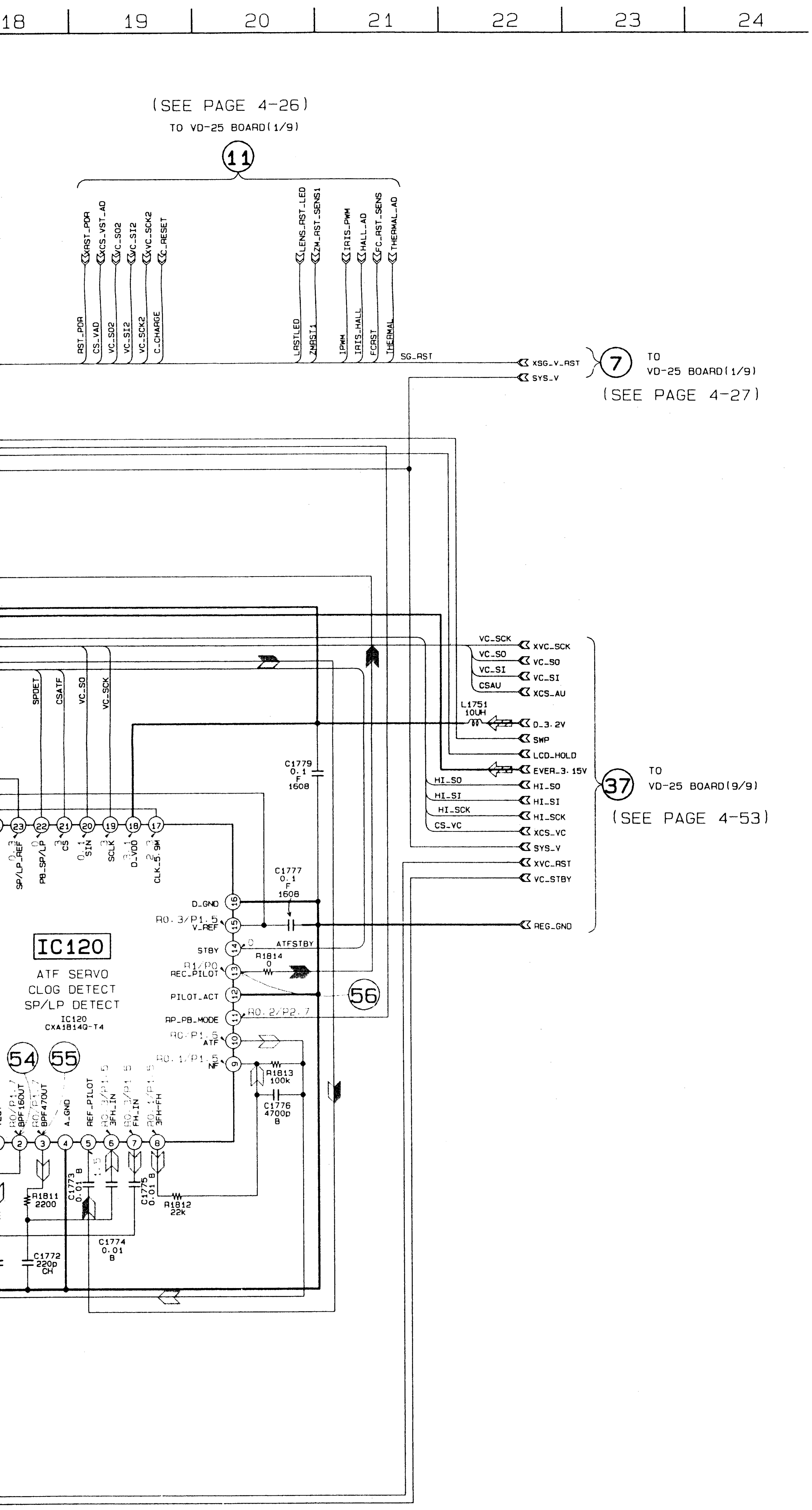
10
11
12
13
14
15
16
17
18
(SEE PAGE 4-42)
TO VD-25 BOARD(5/9)
33
(SEE PAGE 4-48)
TO VD-25 BOARD(7/9)
35
(SEE PAGE 4-38)
TO VD-25 BOARD(4/9)
23
(SEE PAGE 4-33)
TO VD-25 BOARD(3/9)
17
(SEE PAGE 4-30)
TO VD-25 BOARD(2/9)
14
(SEE PAGE 4-26)
TO VD-25 BOARD(1/9)
12
X1/2_SWP
SWP
RP_PB_MODE
XHEAD_2B
XHEAD_1B
XHEAD_2A
XHEAD_1A
PB_RF
VC_SO
XVC_SCK
XCS_SYSTEM
XRST_SYSTEM
CL_X1/2SWP
JOG_VD
CK_CONT
MECHA_VD
SYS_V
MECHA_FLD
CSYNC
TBC_V_RST
TNC_VD
Q1751
BUFFER
Q1751
2SD2216-QR(TXE)
L1752
10uH
L1753
10uH
C1760
0.1
C1764
22
4V
TA A
R1762
4700
R1826
47k
R1823
47k
X1752
11.89MHz:SC55
11.71MHz:SC55E
D1758
MA729-TX
R1764
1k
R1763 1k
R1787 10k
D_ON
CLOG
SPDET
CS_VAD
TBCVRST
MSW_A
MSW_B
MSW_C
MSW_D
LRSTLED
RST_PDR
C_CHARGE
RSTSYSTEM
CSSYSTEM
CSAU
IC117
SERVO, SYSTEM CONTROL
IC117
CXP912032-001R
44
45
46
47
48
49
50
51
52
53
X1751
20MHz
C1757
6800p
B
C1758
6800p
B
R1821
10k
R1789
47k
R1783
1k
R1775
47k
C1753
0.1
C1752
0.1
R1773
47k
R1772
47k
C1781
150p
CH
IC116
AK6440HM-E2
IC116
EEP ROM
R1822
100k
IC118
TC7SH08FU-TE85R
IC119
TC7SH08FU-TE85R
IC118,119
BUFFER
IC120
ATF SERVO
CLOG DETECT
SP/LP DETECT
IC120
CXA1814Q-T4
54
55
57
R1808
47k
R1803
5.6k:SC55
10k:SC55E
R1807
47k
R1806
15k
R1798
1k
L1754
33uH
C1770
0.047
B
R1805
820k
C1766
22p
R1804
1M
C1769
0.01 B
C1768
0.01 B
C1765
22
4V
TA A
R1809
0
R1810
2200
R1811
2200
C1771
220p
CH
C1772
220p
CH
C1773
0.1
B
C1774
0.01
B
R1796
47k
R1795
47k
R1794
47k
R1790 10k
R1792
1k
R1791 47k
R1793
100k
C1763
5p
CH
C1762
10p CH
C1761
10p CH
TREEL
FLD
HD
TBC_V
VD
DFG
DPG

• SIGNAL PATH

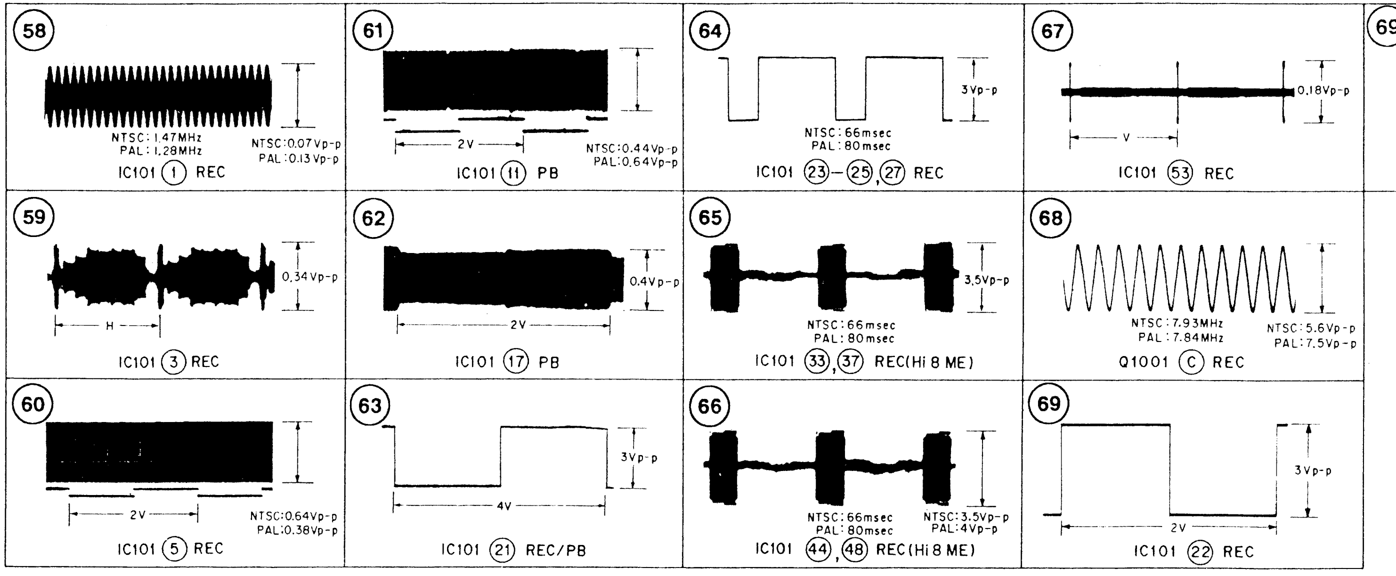
Drum speed servo
Drum phase servo
Drum servo(speed and phas
Capstan servo(speed and p
Ref. signal


18
19
20
21
22
23
24
(SEE PAGE 4-26)
TO VD-25 BOARD(1/9)
11
RST_POR
CS_VST_AD
VC_SO2
VC_SI2
XVC_SCK2
C_RESET
RST_POR
CS_VAD
VC_SO2
VC_SI2
VC_SCK2
C_CHARGE
LENS_RST_LED
ZM_RST_SENS1
IRIS_PWM
HALL_AD
FC_RST_SENS
THERMAL_AD
LRSTLED
ZMRS11
IPWM
IRIS_HALL
FCRST
THERMAL
SG_RST
XSG_V_RST
SYS_V
7
TO
VD-25 BOARD(1/9)
(SEE PAGE 4-27)
VC_SCK
VC_SO
VC_SI
CSAU
XVC_SCK
VC_SO
VC_SI
XCS_AU
L1751
10UH
D_3.2V
SWP
LCD_HOLD
EVER_3.15V
HI_SO
HI_SI
HI_SCK
CS_VC
HI_SO
HI_SI
HI_SCK
XCS_VC
SYS_V
XVC_RST
VC_STBY
REG_GND
37
TO
VD-25 BOARD(9/9)
(SEE PAGE 4-53)
SPDET
CSATF
VC_SO
VC_SCK
C1779
0.1
F
1608
C1777
0.1
F
1608
0.3
SP/LP_REF
0
PB_SP/LP
3
CS
0.1
SIN
3
SCLK
3.1
D_VDD
2.3
CLK_5.9M
D_GND
R0.3/P1.5
V_REF
STBY
0
ATFSTBY
R1814
0
R1/P0
REC_PILOT
PILOT_ACT
56
RP_PB_MODE
R0.2/P2.7
R0/P1.5
ATF
R0.1/P1.5
NF
R1813
100k
C1776
4700p
B
IC120
ATF SERVO
CLOG DETECT
SP/LP DETECT
IC120
CXA1814Q-T4
54
55
R0/P1.7
BPF160OUT
R0/P1.7
BPF470OUT
A_GND
REF_PILOT
R0.3/P1.5
3FH_IN
R0.3/P1.5
FH_IN
R0.1/P1.5
3FH-FH
1.5
R1811
2200
C1773
0.01 B
C1775
0.01 B
R1812
22k
C1774
0.01
B
C1772
220p
CH

TH

	REC	REC/PB	PB
servo		▶	
servo		⫸	
(speed and phase)		⋙	
ervo(speed and phase)		➤››	
l	➤	➤	▷

VD-25 BOARD(RP BLOCK)

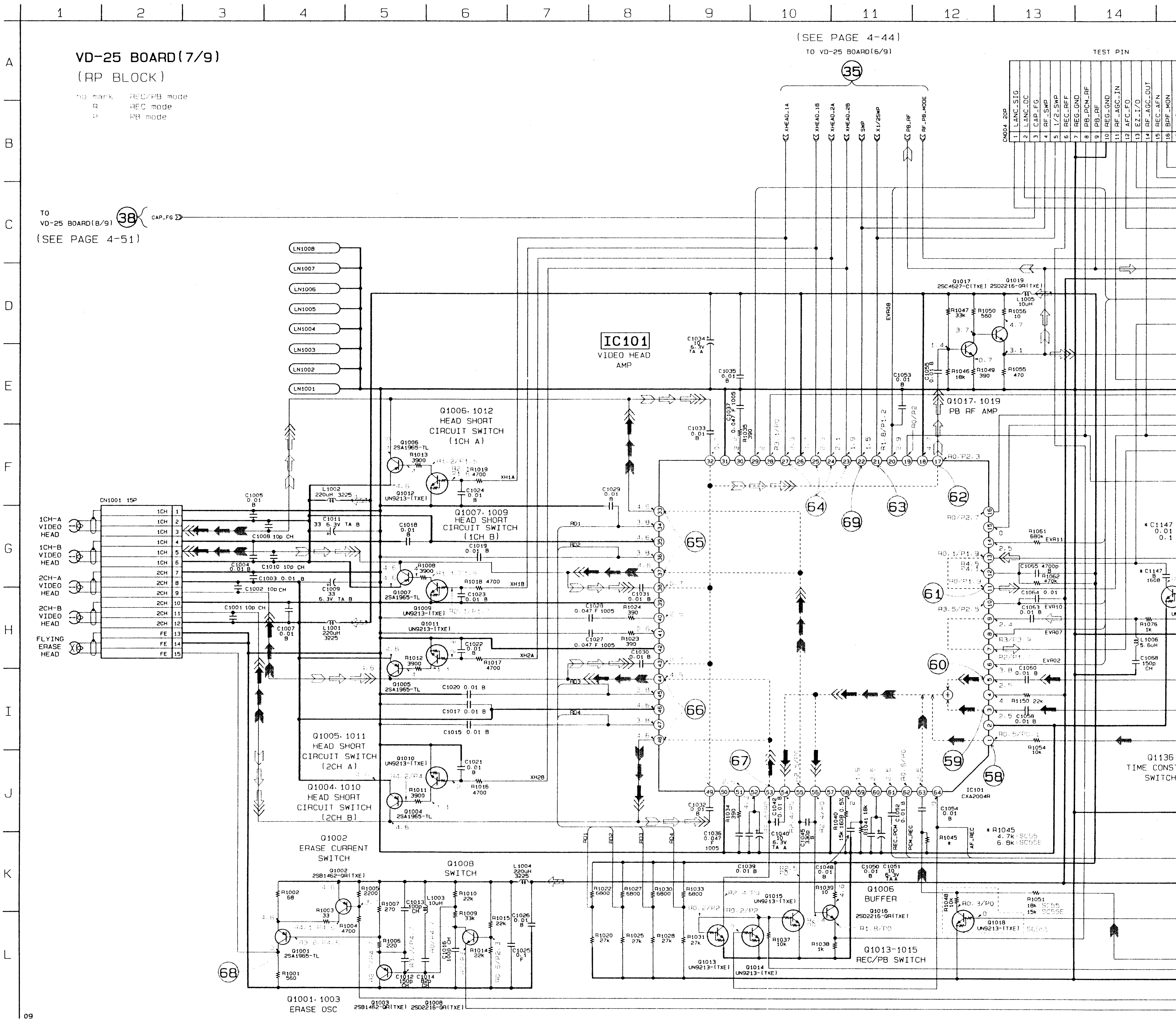


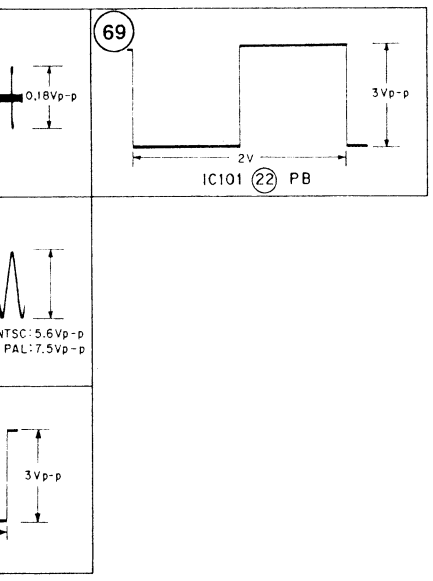
CCD-SC55 :NTSC model
CCD-SC55E:PAL model

VD-25 (REC/PB HEAD AMP, MODE CONTROL) SCHEMATIC DIAGRAM

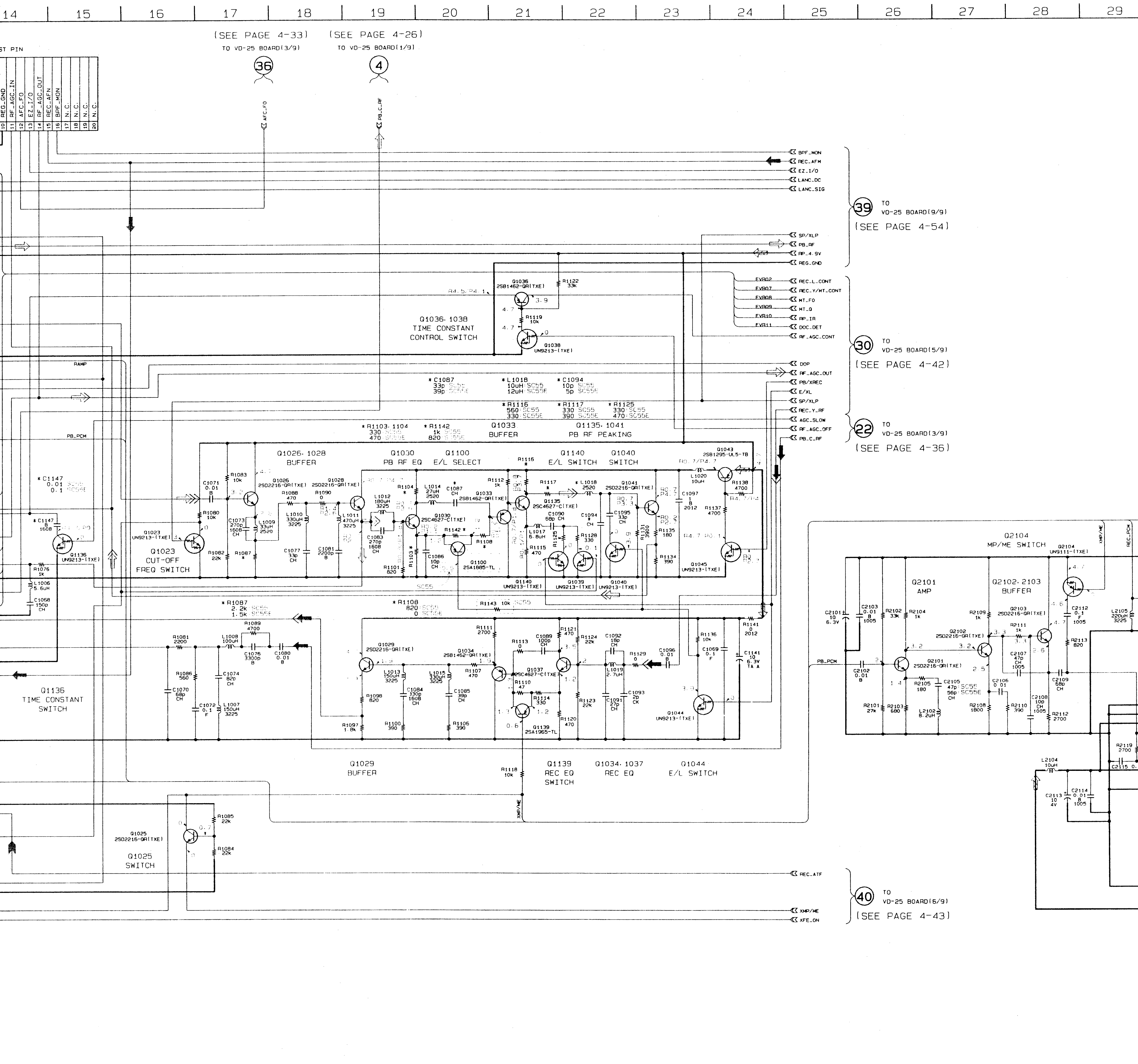
— Ref No. VD-25 BOARD: 2,000 series —

- Refer to page 4-22 for Printed Wiring Board.


VD-25 BOARD(7/9)
(RP BLOCK)
no mark : REC/PB mode
R : REC mode
P : PB mode
(SEE PAGE 4-44)
TO VD-25 BOARD(6/9)
35
TEST PIN
TO VD-25 BOARD(8/9)
38
CAP_FG
(SEE PAGE 4-51)
IC101
VIDEO HEAD AMP
Q1006, 1012
HEAD SHORT CIRCUIT SWITCH
(1CH A)
Q1007, 1009
HEAD SHORT CIRCUIT SWITCH
(1CH B)
Q1005, 1011
HEAD SHORT CIRCUIT SWITCH
(2CH A)
Q1004, 1010
HEAD SHORT CIRCUIT SWITCH
(2CH B)
Q1002
ERASE CURRENT SWITCH
Q1008
SWITCH
Q1001, 1003
ERASE OSC
Q1017, 1019
PB RF AMP
Q1016
BUFFER
Q1013-1015
REC/PB SWITCH
Q1136
TIME CONST SWITCH
CN1001 15P
1CH-A VIDEO HEAD
1CH-B VIDEO HEAD
2CH-A VIDEO HEAD
2CH-B VIDEO HEAD
FLYING ERASE HEAD
CN1004 20P
IC101 CXA2004R
R1045
4.7k : SC55
6.8k : SC55E
R1051
18k : SC55
15k : SC55E



69
0.18Vp-p
3Vp-p
2V
IC101 22 PB
NTSC:5.6Vp-p
PAL:7.5Vp-p
3Vp-p



14
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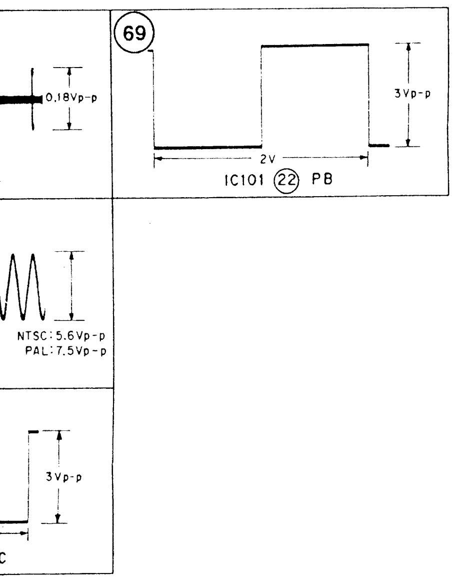
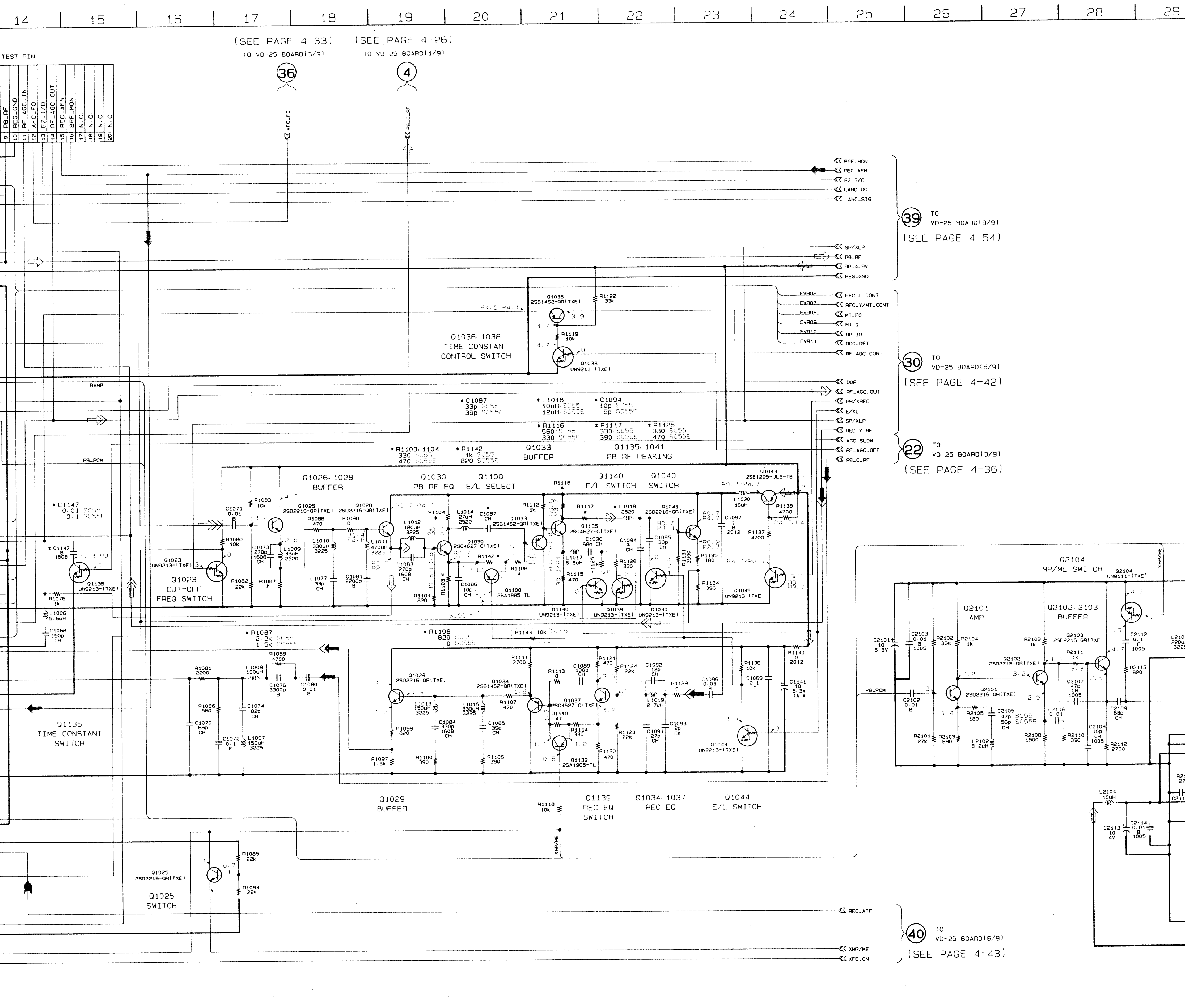
21
22
23
24
25
26
27
28
29
(SEE PAGE 4-33)
TO VD-25 BOARD(3/9)
36
(SEE PAGE 4-26)
TO VD-25 BOARD(1/9)
4
REG_GND
RF_AGC_IN
AFC_FO
EZ_I/O
RF_AGC_OUT
REC_AFM
BPF_MON
N.C.
N.C.
N.C.
N.C.
AFC_FO
PB_C_RF
BPF_MON
REC_AFM
EZ_I/O
LANC_DC
LANC_SIG
39
TO VD-25 BOARD(9/9)
(SEE PAGE 4-54)
SP/XLP
PB_RF
RP_4.9V
REG_GND
REC_L_CONT
REC_Y/MT_CONT
MT_FO
MT_Q
RP_IR
DOC_DET
RF_AGC_CONT
30
TO VD-25 BOARD(5/9)
(SEE PAGE 4-42)
DOP
RF_AGC_OUT
PB/XREC
E/XL
SP/XLP
REC_Y_RF
AGC_SLOW
RF_AGC_OFF
PB_C_RF
22
TO VD-25 BOARD(3/9)
(SEE PAGE 4-36)
Q1036, 1038
TIME CONSTANT
CONTROL SWITCH
Q1026, 1028
BUFFER
Q1030
PB RF EQ
Q1100
E/L SELECT
Q1033
BUFFER
Q1140
E/L SWITCH
Q1040
SWITCH
Q1135, 1041
PB RF PEAKING
Q1023
CUT-OFF
FREQ SWITCH
Q1136
TIME CONSTANT
SWITCH
Q1029
BUFFER
Q1139
REC EQ
SWITCH
Q1034, 1037
REC EQ
Q1044
E/L SWITCH
Q1025
SWITCH
Q2104
MP/ME SWITCH
Q2101
AMP
Q2102, 2103
BUFFER
PB_PCM
RAMP
XMP/ME
REC_ATF
XMP/ME
XFE_ON
40
TO VD-25 BOARD(6/9)
(SEE PAGE 4-43)



69
0.18Vp-p
3Vp-p
2V
IC101 22 PB
NTSC:5.6Vp-p
PAL:7.5Vp-p
3Vp-p



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24
25
26
27
28
29
TEST PIN
(SEE PAGE 4-33)
TO VD-25 BOARD(3/9)
36
(SEE PAGE 4-26)
TO VD-25 BOARD(1/9)
4
AFC_FO
PB_C_RF
9 PB_RF
10 REG_GND
11 RF_AGC_IN
12 AFC_FO
13 EZ_I/O
14 RF_AGC_OUT
15 REC_AFM
16 BPF_MON
17 N.C.
18 N.C.
19 N.C.
20 N.C.
BPF_MON
REC_AFM
EZ_I/O
LANC_DC
LANC_SIG
39
TO VD-25 BOARD(9/9)
(SEE PAGE 4-54)
SP/XLP
PB_RF
RP_4.9V
REG_GND
EVR02
EVR07
EVR08
EVR09
EVR10
EVR11
REC_L_CONT
REC_Y/MT_CONT
MT_FO
MT_Q
RP_IR
DOC.DET
RF_AGC_CONT
30
TO VD-25 BOARD(5/9)
(SEE PAGE 4-42)
DOP
RF_AGC_OUT
PB/XREC
E/XL
SP/XLP
AGC_SLOW
RF_Y_RF
RF_AGC_OFF
PB_C_RF
22
TO VD-25 BOARD(3/9)
(SEE PAGE 4-36)
Q1036
2SB1462-QR(TXE)
R1122 33k
R1119 10k
Q1038
UN9213-(TXE)
Q1036· 1038
TIME CONSTANT
CONTROL SWITCH
RAMP
PB_PCM
* C1087
33p SC55
39p SC55E
* L1018
10uH SC55
12uH SC55E
* C1094
10p SC55
5p SC55E
* R1116
560 SC55
330 SC55E
* R1117
330 SC55
390 SC55E
* R1125
330 SC55
470 SC55E
* R1103· 1104
330 SC55
470 SC55E
* R1142
1k SC55
820 SC55E
Q1033
BUFFER
Q1135· 1041
PB RF PEAKING
Q1026· 1028
BUFFER
Q1030
PB RF EQ
Q1100
E/L SELECT
Q1140
E/L SWITCH
Q1040
SWITCH
Q1043
2SB1295-UL5-TB
* C1147
0.01 SC55
0.1 SC55E
Q1023
UN9213-(TXE)
Q1023
CUT-OFF
FREQ SWITCH
Q1136
UN9213-(TXE)
Q1026
2SD2216-QR(TXE)
Q1028
2SD2216-QR(TXE)
Q1033
2SB1462-QR(TXE)
Q1030
2SC4627-C(TXE)
Q1100
2SA1685-TL
Q1135
2SC4627-C(TXE)
Q1041
2SD2216-QR(TXE)
Q1140
UN9213-(TXE)
Q1039
UN9213-(TXE)
Q1040
UN9213-(TXE)
Q1045
UN9213-(TXE)
* R1087
2.2k SC55
1.5k SC55E
* R1108
820 SC55
0 SC55E
R1143 10k SC55
Q1029
2SD2216-QR(TXE)
Q1034
2SB1462-QR(TXE)
Q1037
2SC4627-C(TXE)
Q1139
2SA1965-TL
Q1044
UN9213-(TXE)
Q1136
TIME CONSTANT
SWITCH
Q1029
BUFFER
Q1139
REC EQ
SWITCH
Q1034· 1037
REC EQ
Q1044
E/L SWITCH
R1118 10k
XMP/ME
Q1025
2SD2216-QR(TXE)
Q1025
SWITCH
R1085 22k
R1084 22k
REC_ATF
40
TO VD-25 BOARD(6/9)
(SEE PAGE 4-43)
XMP/ME
XFE_ON
Q2104
MP/ME SWITCH
Q2104
UN9111-(TXE)
Q2101
AMP
Q2102· 2103
BUFFER
Q2101
2SD2216-QR(TXE)
Q2102
2SD2216-QR(TXE)
Q2103
2SD2216-QR(TXE)
PB_PCM
L2104 10uH

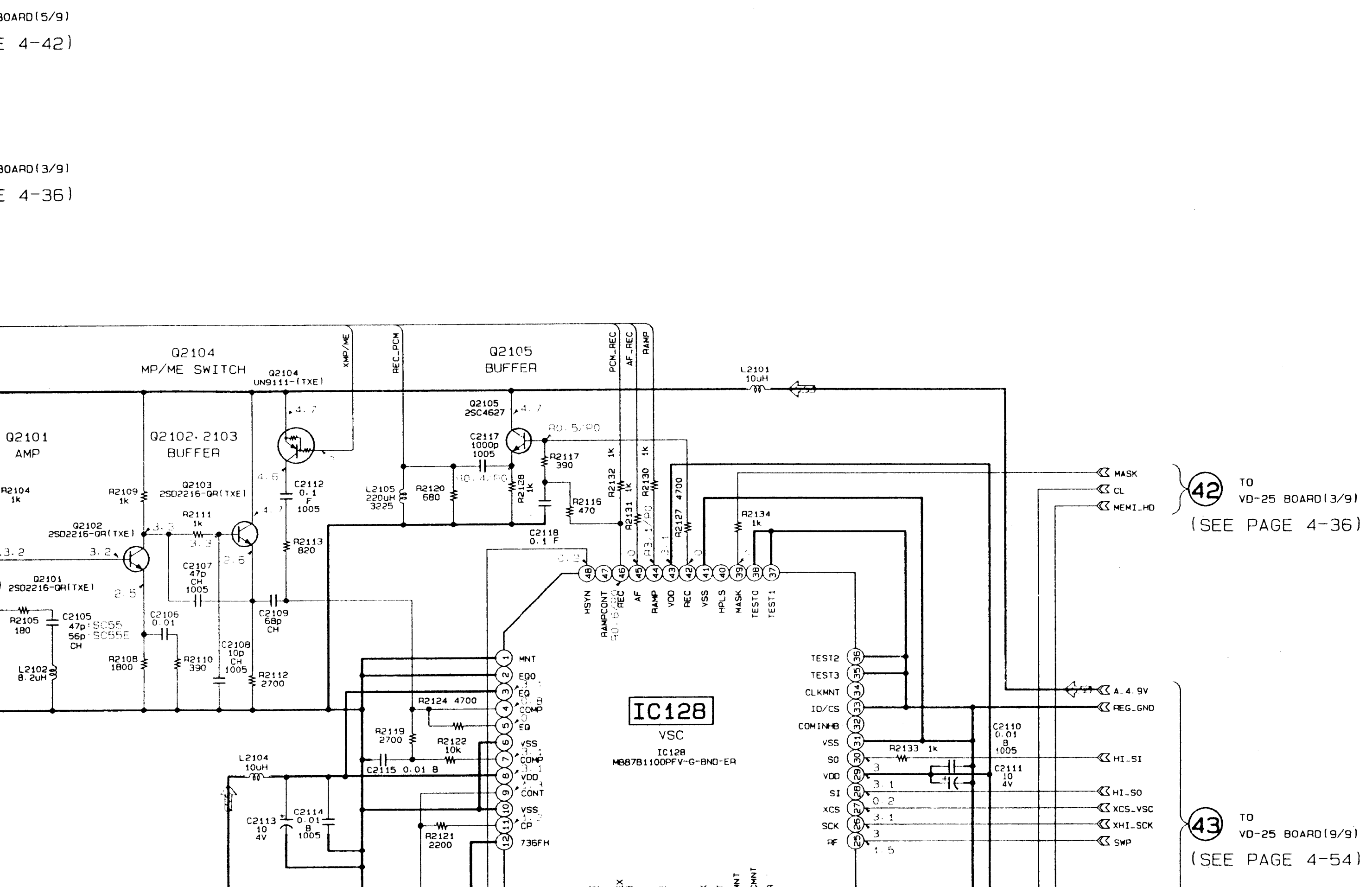
27 28 29 30 31 32 33 34 35 36

· SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡〉	➡》	➡
PB	⇨	⇨〉	⇨》	⇨

· SIGNAL PATH

	REC	REC/PB	PB
Ref. signal	➡		⇨

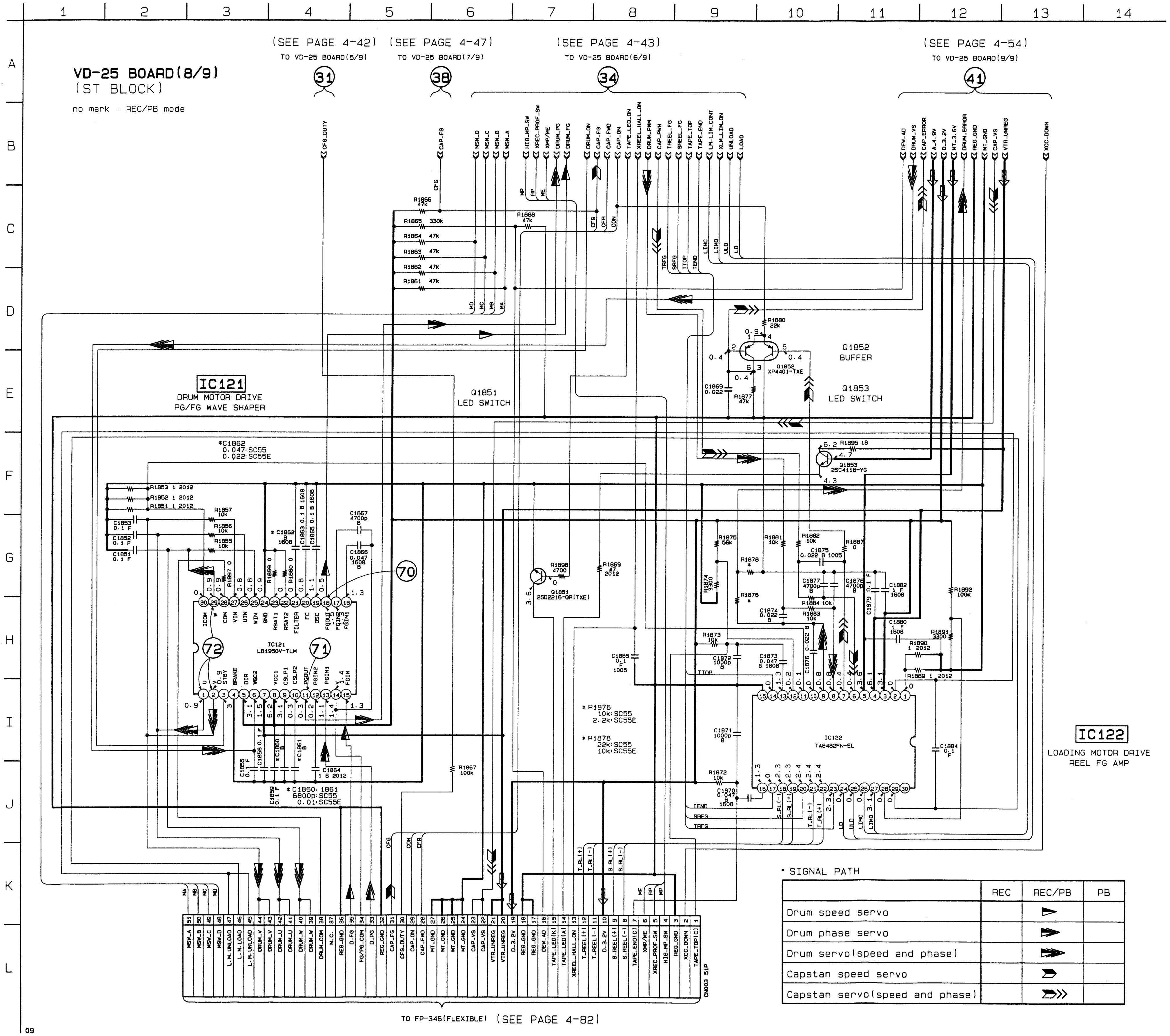


BOARD(9/9)
E 4-54)
BOARD(5/9)
E 4-42)
BOARD(3/9)
E 4-36)
BOARD(6/9)
E 4-43)
Q2104
MP/ME SWITCH
Q2104 UN9111-(TXE)
XMP/ME
REC_PCM
Q2105
BUFFER
Q2105 2SC4627
PCM_REC
AF_REC
RAMP
Q2101
AMP
Q2102, 2103
BUFFER
Q2103 2SD2216-QR(TXE)
Q2102 2SD2216-QR(TXE)
Q2101 2SD2216-QR(TXE)
R2104 1k
R2109 1k
R2111 1k
C2112 0.1 F 1005
R2113 820
C2107 47p CH 1005
C2106 0.01
C2109 68p CH
C2108 10p CH 1005
R2112 2700
R2110 390
R2108 1800
R2105 180
C2105 47p 56p CH
L2102 8.2uH
L2105 220uH 3225
R2120 680
C2117 1000p 1005
R2128 1k
R2117 390
R2115 470
C2118 0.1 F
R2132 1k
R2131 1k
R2130 1k
R2127 4700
R2134 1k
L2101 10uH
IC128
VSC
IC128 MB87B1100PFV-G-BND-ER
HSYN RAMPCONT REC AF RAMP VDD REC VSS HPLS MASK TEST0 TEST1
MNT EQO EQ COMP EQ VSS COMP VDD CONT VSS CP 736FH
TEST2 TEST3 CLKMNT IO/CS COMINHB VSS SO VDD SI XCS SCK RF
XTAL XREF INDEX OSC VSS XOSC VDD PACK PHOT HRZMNT CRCMNT XCLR
R2124 4700
R2119 2700
R2122 10k
C2115 0.01 B
L2104 10uH
C2113 10 4V
C2114 0.01 B 1005
R2121 2200
C2116 0.1 B 2012
R2133 1k
C2110 0.01 B 1005
C2111 10 4V
L2103 10uH
MASK
CL
MEMI_HD
42 TO VD-25 BOARD(3/9)
(SEE PAGE 4-36)
A_4.9V
REG_GND
HI_SI
HI_SO
XCS_VSC
XHI_SCK
SWP
43 TO VD-25 BOARD(9/9)
(SEE PAGE 4-54)
XSYS_RST
D_3.2V

VD-25 (MOTOR DRIVE) SCHEMATIC DIAGRAM

— Ref No. VD-25 BOARD: 2,000 series —

- Refer to page 4–22 for Printed Wiring Board.

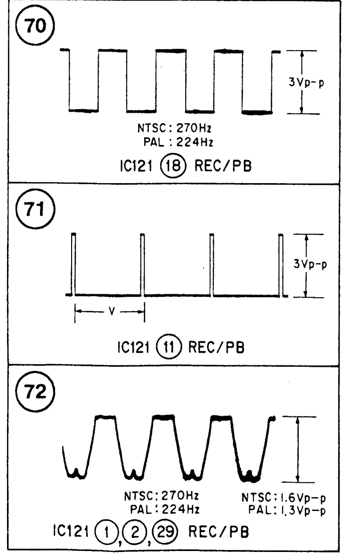


VD-25 BOARD (8/9)
(ST BLOCK)
no mark : REC/PB mode
(SEE PAGE 4-42) TO VD-25 BOARD (5/9) 31
(SEE PAGE 4-47) TO VD-25 BOARD (7/9) 38
(SEE PAGE 4-43) TO VD-25 BOARD (6/9) 34
(SEE PAGE 4-54) TO VD-25 BOARD (9/9) 41
IC121
DRUM MOTOR DRIVE
PG/FG WAVE SHAPER
IC121 LB1950V-TLM
Q1851 LED SWITCH
Q1851 2SD2216-QR(TXE)
Q1852 BUFFER
Q1852 XP4401-TXE
Q1853 LED SWITCH
Q1853 2SC4116-YG
IC122
LOADING MOTOR DRIVE
REEL FG AMP
IC122 TA8482FN-EL
*C1862 0.047:SC55 0.022:SC55E
*C1850, 1861 6800p:SC55 0.01:SC55E
*R1876 10k:SC55 2.2k:SC55E
*R1878 22k:SC55 10k:SC55E
CN003 51P
TO FP-346(FLEXIBLE) (SEE PAGE 4-82)
70
71
72
09

• SIGNAL PATH

	REC	REC/PB	PB
Drum speed servo		▷	
Drum phase servo		▶	
Drum servo(speed and phase)		▶▶	
Capstan speed servo		⊳	
Capstan servo(speed and phase)		⊳»»	

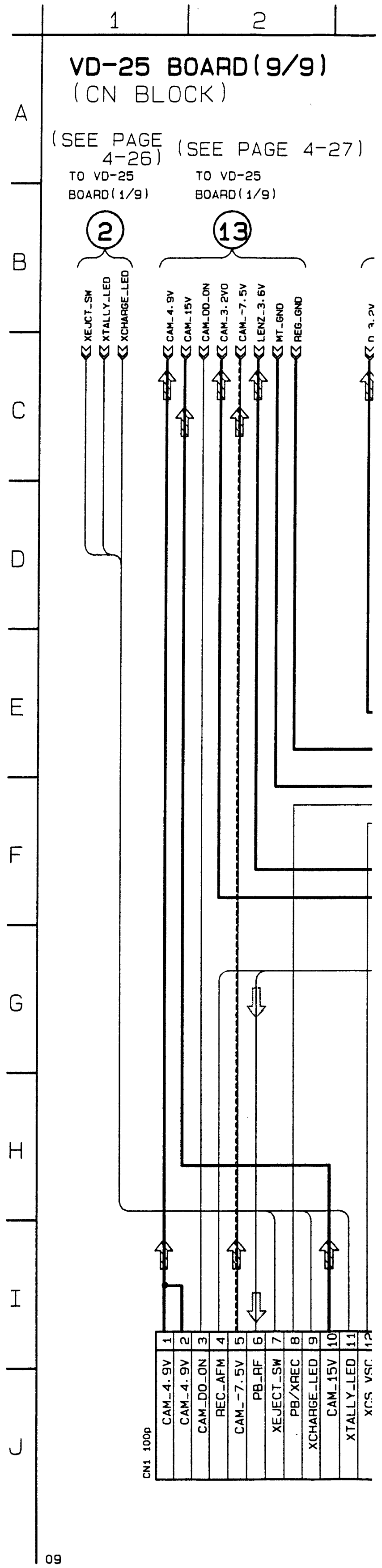
VD-25 BOARD (ST BLOCK)



CCD-SC55 : NTSC model
CCD-SC55E : PAL model

VD-25 (CONNECTOR) SCHEMATIC D

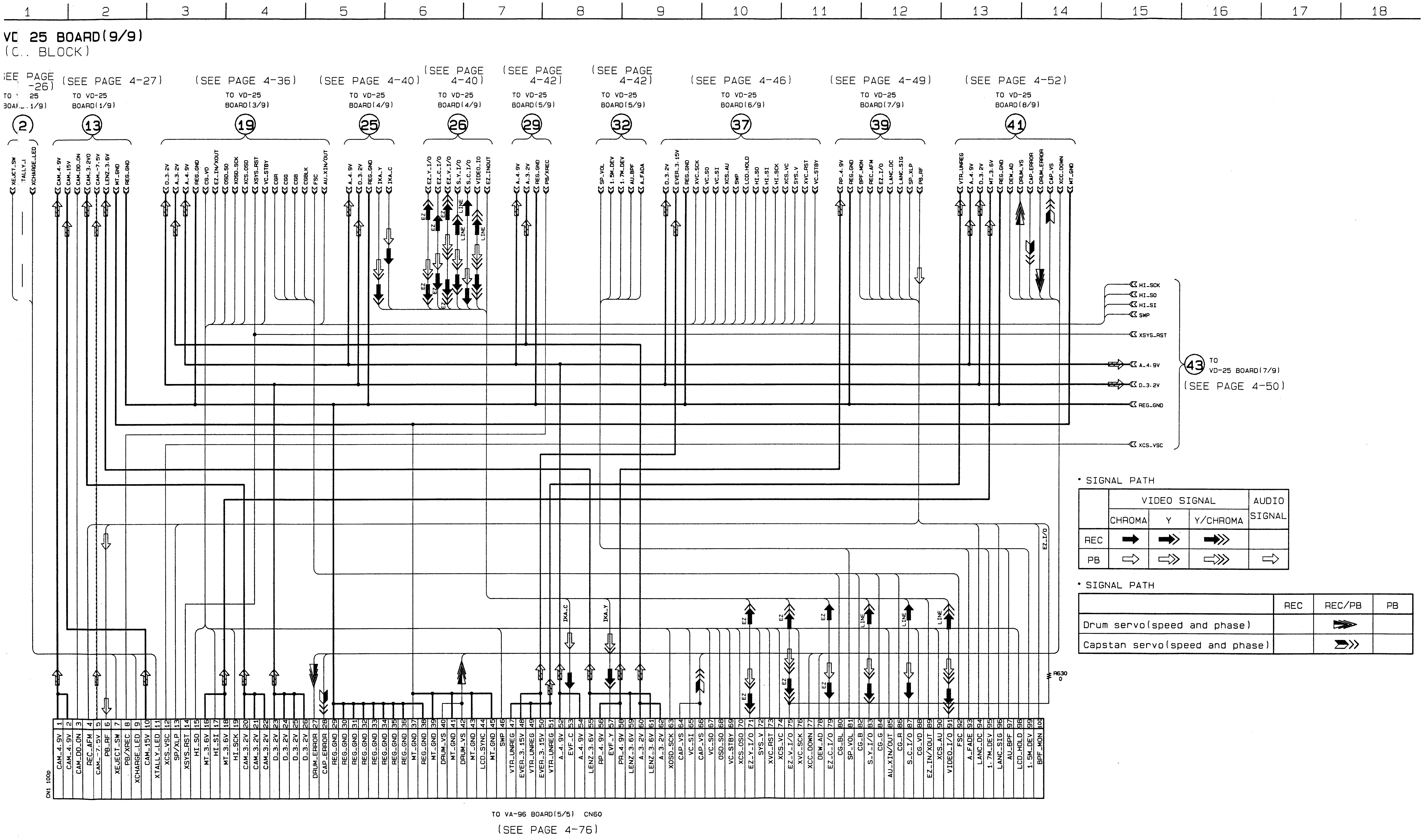
— Ref No. VD-25 BOARD: 2,000 series —



VD-25 BOARD (9/9)
(CN BLOCK)
(SEE PAGE 4-26) TO VD-25 BOARD (1/9) 2
(SEE PAGE 4-27) TO VD-25 BOARD (1/9) 13
CN1 100P
09

; (CONNECTOR) SCHEMATIC DIAGRAM
)o.)-25 BOARD: 2,000 series —

- Refer to page 4-22 for Printed Wiring Board.


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
VD 25 BOARD(9/9)
(C.. BLOCK)
;EE PAGE -26)
TO 25 BOAR..1/9)
②
XEJCT_SW
TALLY_I
XCHARGE_LED
(SEE PAGE 4-27)
TO VD-25 BOARD(1/9)
⑬
CAM_4.9V
CAM_15V
CAM_DD_ON
CAM_3.2VO
CAM_-7.5V
LENZ_3.6V
MT_GND
REG_GND
(SEE PAGE 4-36)
TO VD-25 BOARD(3/9)
⑲
D_3.2V
A_3.2V
A_4.9V
REG_GND
CG_VD
EZ_IN/XOUT
OSD_SO
XOSD_SCK
XCS_OSD
XSYS_RST
VC_STBY
CGR
CGG
CGB
CGBLK
FSC
AU_XIN/OUT
(SEE PAGE 4-40)
TO VD-25 BOARD(4/9)
㉕
A_4.9V
D_3.2V
REG_GND
IKA_Y
IKA_C
(SEE PAGE 4-40)
TO VD-25 BOARD(4/9)
㉖
EZ_Y_I/O
EZ_C_I/O
EZ_V_I/O
S_Y_I/O
S_C_I/O
VIDEO_IO
EZ_INOUT
EZ
LINE
(SEE PAGE 4-42)
TO VD-25 BOARD(5/9)
㉙
A_4.9V
A_3.2V
REG_GND
PB/XREC
(SEE PAGE 4-42)
TO VD-25 BOARD(5/9)
32
SP_VOL
1.5M_DEV
1.7M_DEV
AU_BPF
A_FADA
(SEE PAGE 4-46)
TO VD-25 BOARD(6/9)
37
D_3.2V
EVER_3.15V
REG_GND
XVC_SCK
VC_SO
VC_SI
XCS_AU
SWP
LCD_HOLD
HI_SO
HI_SI
HI_SCK
XCS_VC
SYS_V
XVC_RST
VC_STBY
(SEE PAGE 4-49)
TO VD-25 BOARD(7/9)
39
RP_4.9V
REG_GND
BPF_MON
REC_AFM
EZ_I/O
LANC_DC
LANC_SIG
SP_XLP
PB_RF
(SEE PAGE 4-52)
TO VD-25 BOARD(8/9)
41
VTR_UNREG
A_4.9V
D_3.2V
MT_3.6V
REG_GND
DEW_AD
DRUM_VS
CAP_ERROR
DRUM_ERROR
CAP_VS
XCC_DOWN
MT_GND
HI_SCK
HI_SO
HI_SI
SWP
XSYS_RST
A_4.9V
D_3.2V
REG_GND
XCS_VSC
43
TO VD-25 BOARD(7/9)
(SEE PAGE 4-50)
EZ_I/O
IKA_C
IKA_Y
EZ
LINE
R630 0
CN1 100P
1 CAM_4.9V
2 CAM_4.9V
3 CAM_DD_ON
4 REC_AFM
5 CAM_-7.5V
6 PB_RF
7 XEJECT_SW
8 PB/XREC
9 XCHARGE_LED
10 CAM_15V
11 XTALLY_LED
12 XCS_VSC
13 SP/XLP
14 XSYS_RST
15 HI_SO
16 MT_3.6V
17 HI_SI
18 MT_3.6V
19 HI_SCK
20 CAM_3.2V
21 CAM_3.2V
22 CAM_3.2V
23 D_3.2V
24 D_3.2V
25 D_3.2V
26 D_3.2V
27 DRUM_ERROR
28 CAP_ERROR
29 REG_GND
30 REG_GND
31 REG_GND
32 REG_GND
33 REG_GND
34 REG_GND
35 REG_GND
36 REG_GND
37 MT_GND
38 REG_GND
39 MT_GND
40 DRUM_VS
41 MT_GND
42 DRUM_VS
43 MT_GND
44 LCD_SYNC
45 MT_GND
46 SWP
47 VTR_UNREG
48 EVER_3.15V
49 VTR_UNREG
50 EVER_3.15V
51 VTR_UNREG
52 A_4.9V
53 EVF_C
54 A_4.9V
55 LENZ_3.6V
56 RP_4.9V
57 EVF_Y
58 PR_4.9V
59 LENZ_3.6V
60 A_3.2V
61 LENZ_3.6V
62 A_3.2V
63 XOSD_SCK
64 CAP_VS
65 VC_SI
66 CAP_VS
67 VC_SO
68 OSD_SO
69 VC_STBY
70 XCS_OSD
71 EZ_Y_I/O
72 SYS_V
73 XVC_RST
74 XCS_VC
75 EZ_V_I/O
76 XVC_SCK
77 XCC_DOWN
78 DEW_AD
79 EZ_C_I/O
80 CG_BL
81 SP_VOL
82 CG_B
83 S_Y_I/O
84 CG_G
85 AU_XIN/OUT
86 CG_R
87 S_C_I/O
88 CG_VD
89 EZ_IN/XOUT
90 XCS_AU
91 VIDEO_I/O
92 FSC
93 A_FADE
94 LANC_DC
95 1.7M_DEV
96 LANC_SIG
97 AU_BPF
98 LCD_HOLD
99 1.5M_DEV
100 BPF_MON
TO VA-96 BOARD(5/5) CN60
(SEE PAGE 4-76)

- SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡》	➡》》	
PB	⇨	⇨》	⇨》》	⇨

- SIGNAL PATH

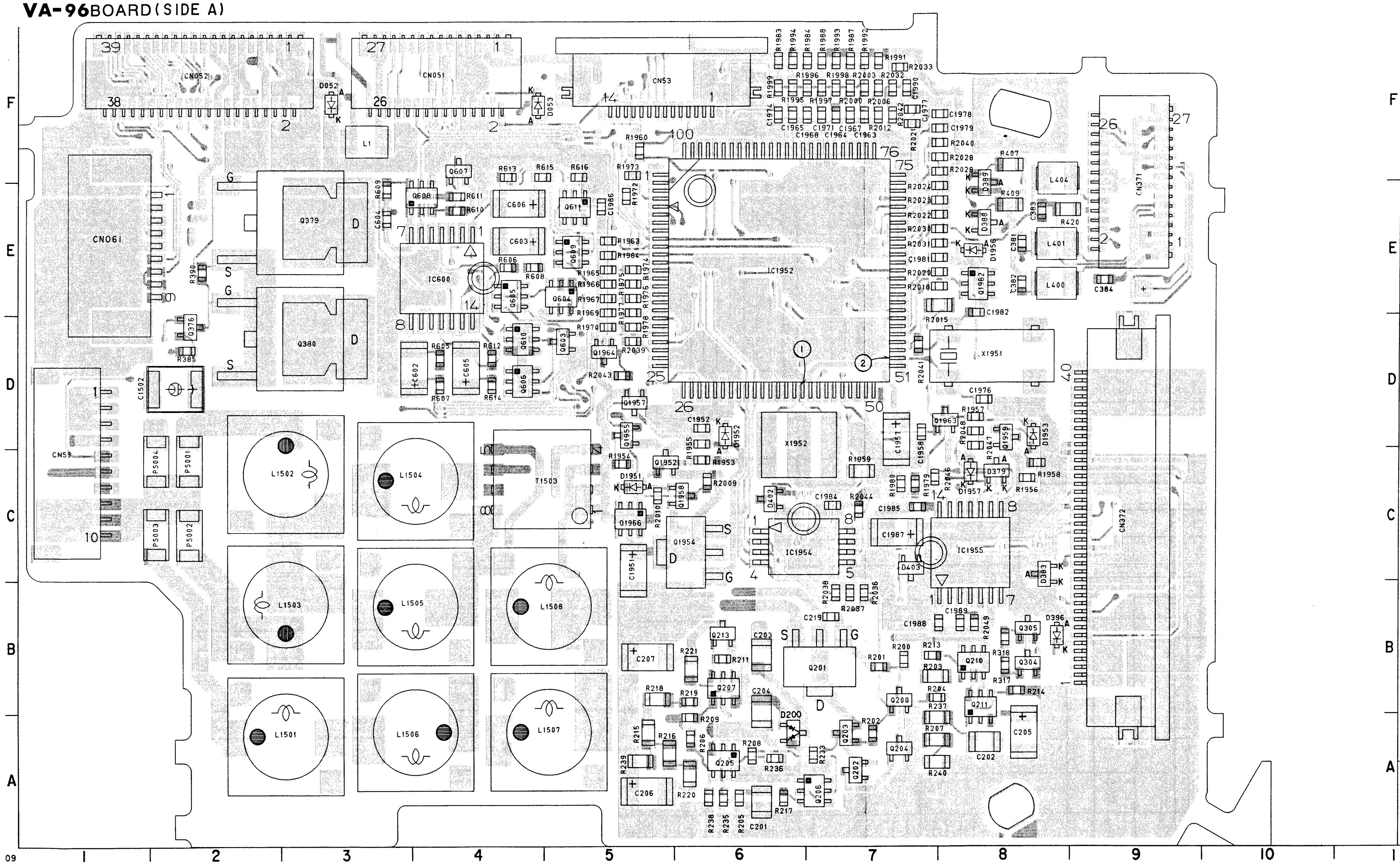
	REC	REC/PB	PB
Drum servo(speed and phase)		➡	
Capstan servo(speed and phase)		➡》》	

VA-96 (MODE CONTROL, AUDIO, EASY CONNECTOR, VIDEO, AUDIO I/O, SPEAKER OUTPUT, POWER, CONNECTOR) PRINTED WIRING BOARD

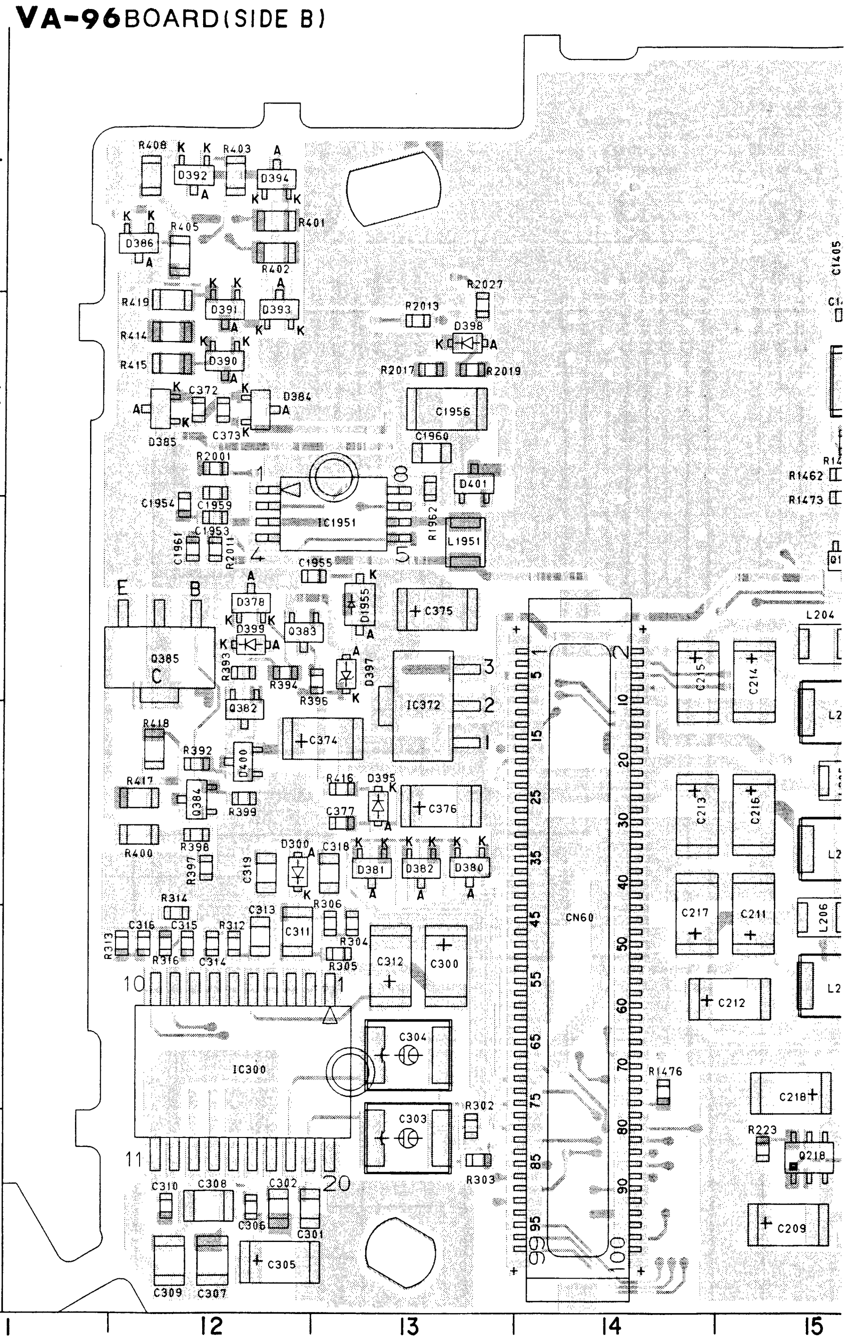
— Ref No. VA-96 BOARD: 3,000 series —

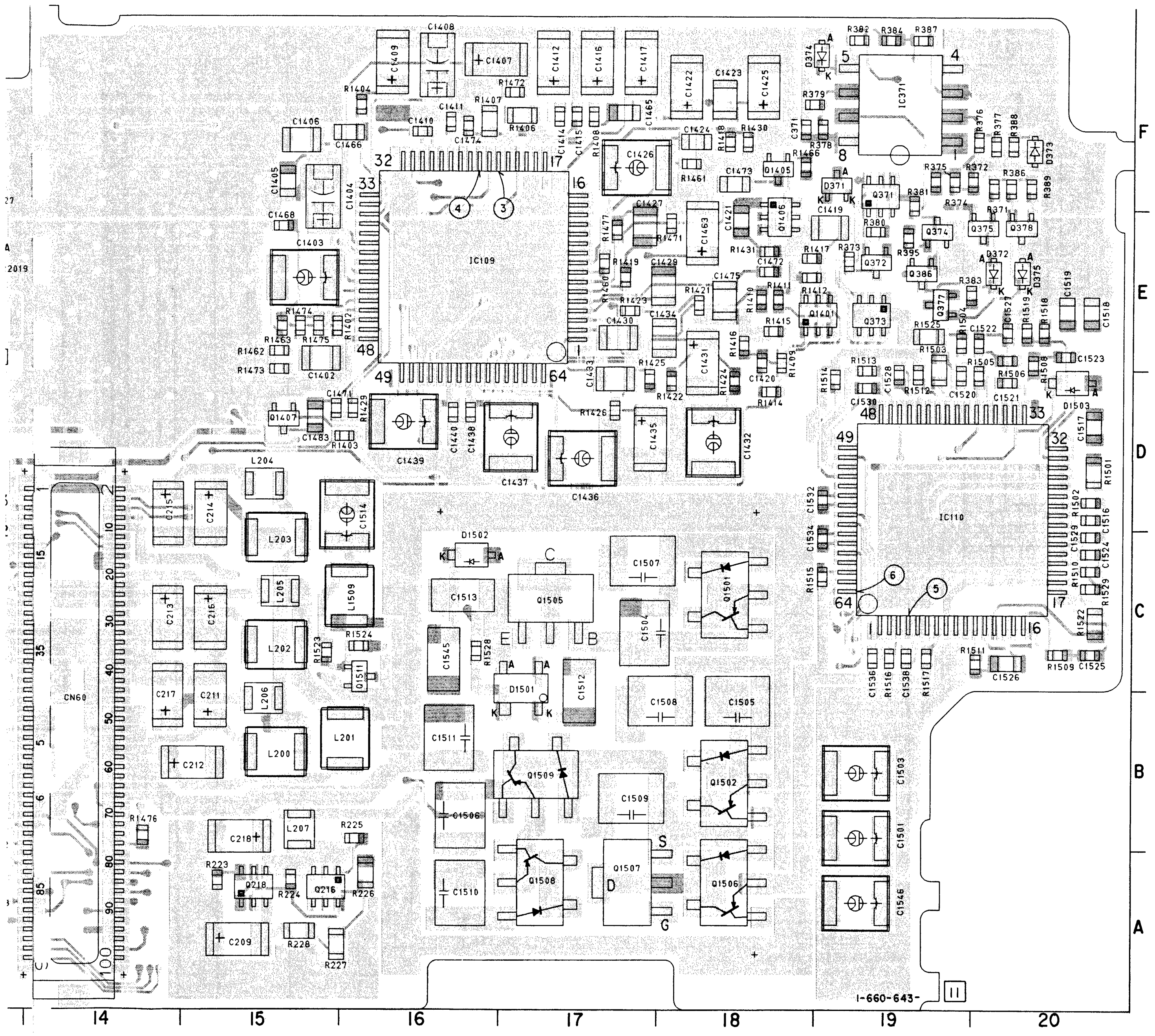
There are few cases that the part isn't mounted in this model is printed on this diagram.

VA-96BOARD(SIDE A)

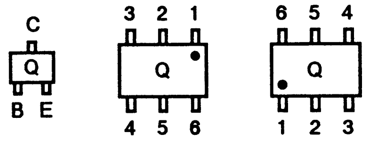

CN052
CN051
CN53
CN061
CN59
CN371
CN372
IC600
IC1952
IC1954
IC1955
Q379
Q380
Q201
Q1954
X1951
X1952
T1503
L1501
L1502
L1503
L1504
L1505
L1506
L1507
L1508
L400
L401
L404
L1
D052
D053
D200
P5001
P5002
P5003
P5004
C1502
C205
C206
C207
F
E
D
C
B
A
09
1
2
3
4
5
6
7
8
9
10

VA-96BOARD(SIDE B)


IC1951
IC300
IC372
CN60
Q385
Q218
C1956
C300
C303
C304
C305
C375
C376
C212
C209
L204
F
E
D
C
B
A
11
12
13
14
15

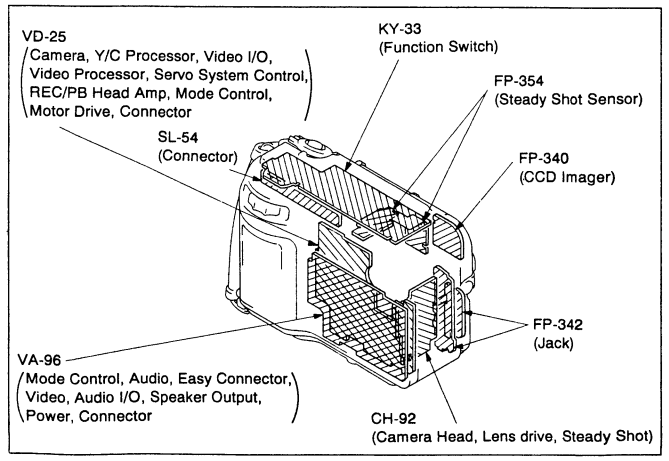


- **For printed wiring boards.**
- VA-96 board is six-layer print board. However, the patterns of layers 2 to 5 have not been included in the diagram.
- Chip transistor



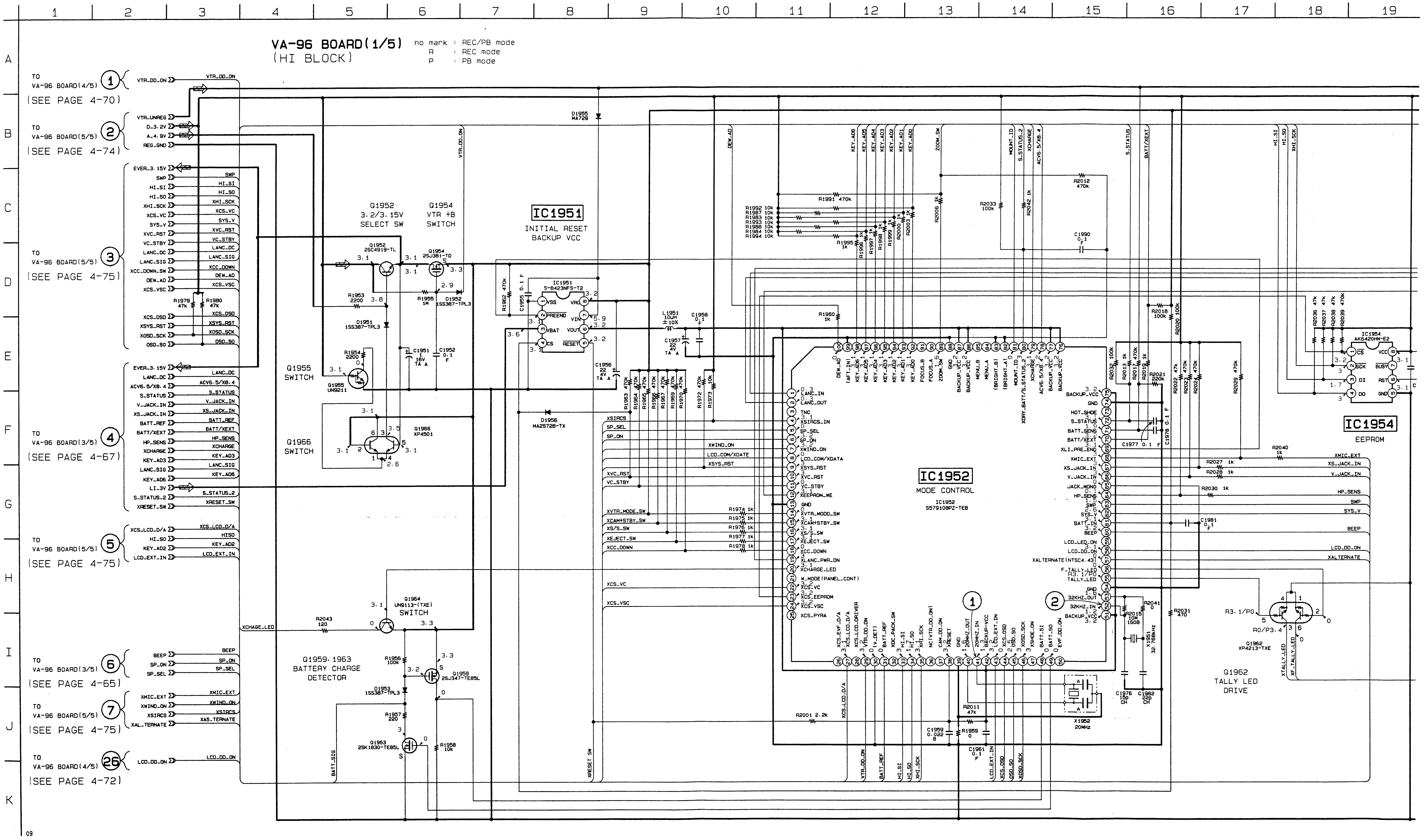
VA-96 BOARD

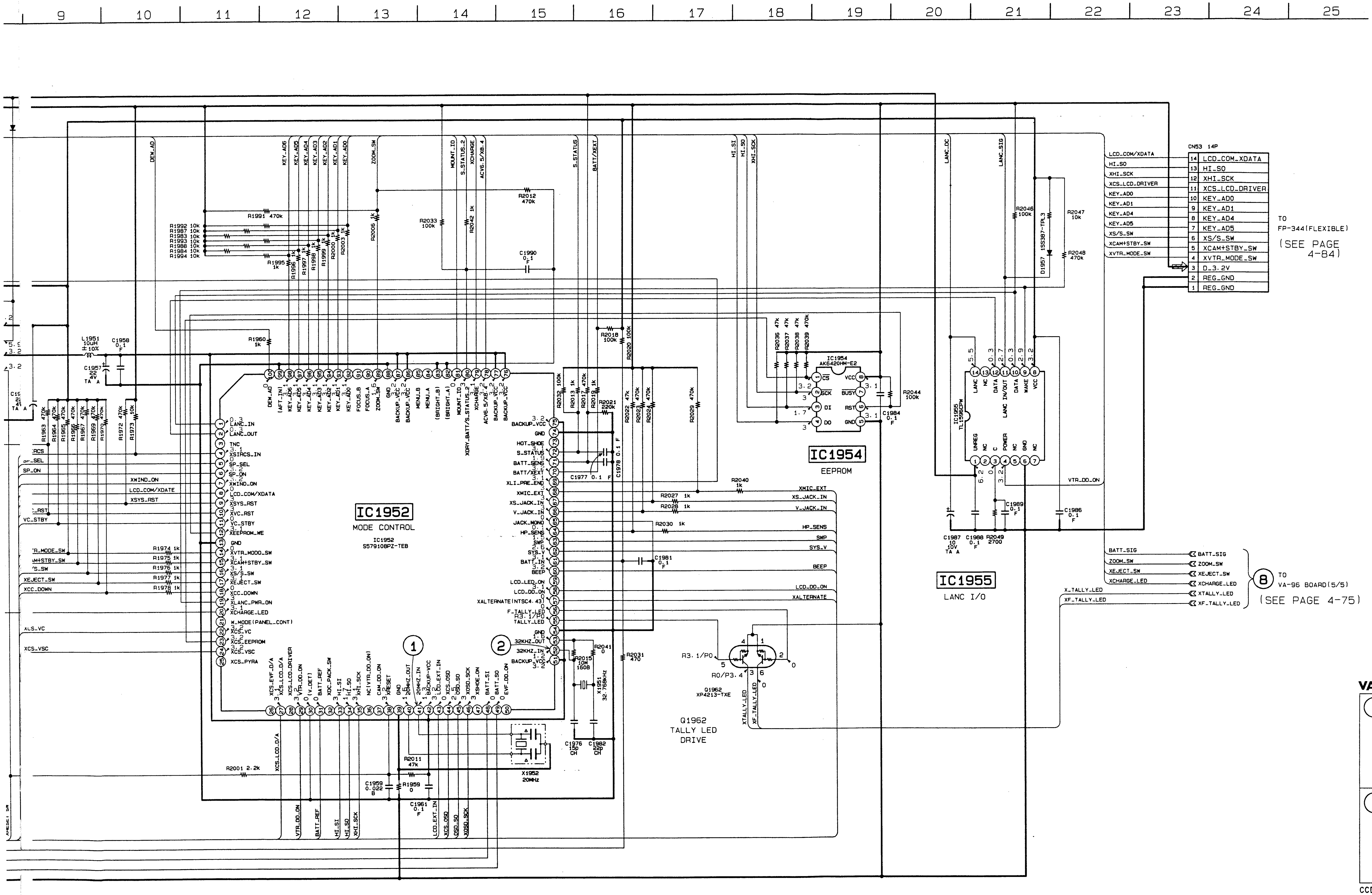
C201	A-6
C202	A-8
C203	B-6
C204	B-6
C205	A-8
C206	A-5
C207	B-5
C209	A-15
C211	B-15
C212	B-15
C213	C-14
C214	D-15
C215	D-14
C216	C-15
C217	B-14
C218	B-15
C219	B-7
C300	B-13
C301	A-12
C302	A-12
C303	A-13
C304	B-13
C305	A-12
C306	A-12
C307	A-12
C309	A-12
C310	A-12
C311	B-12
C312	B-13
C314	B-12
C315	B-12
C316	B-12
C318	C-13
C319	C-12
C371	F-18
C372	E-12
C373	E-12
C374	C-13
C377	C-13
C602	D-4
C603	E-4
C604	E-3
C605	D-4
C606	E-4
C1402	E-15
C1403	E-15
C1404	F-15
C1405	F-15
C1406	F-15
C1407	F-17
C1408	F-16
C1409	F-16
C1410	F-16
C1411	F-16
C1412	F-17
C1414	F-17
C1415	F-17
C1416	F-17
C1417	F-17
C1421	E-18
C1422	F-18
C1423	F-18
C1424	F-18
C1425	F-18
C1426	F-17
C1427	E-17
C1429	E-18
C1430	E-17
C1431	E-18
C1432	D-18
C1433	D-17
C1434	E-18
C1435	D-17
C1436	D-17
C1437	D-17
C1439	D-16
C1471	D-16
C1472	E-18
C1473	F-18
C1474	F-16
C1475	E-18
C1501	B-19
C1502	D-2
C1503	B-19
C1504	C-17
C1505	B-18
C1506	B-16
C1507	C-17
C1508	B-19
C1509	B-17
C1510	A-16
C1511	B-16
C1512	B-17
C1513	C-16
C1514	D-16
C1516	D-20
C1517	D-20
C1518	E-20
C1519	E-20
C1520	D-19
C1521	D-20
C1522	E-20
C1523	E-20
C1524	C-20
C1525	C-20
C1526	C-20
C1527	E-20
C1528	D-19
C1530	D-19
C1532	D-19
C1534	C-19
C1536	C-19
C1538	C-19
C1546	A-19
C1951	C-5
C1952	D-6
C1955	D-13
C1956	E-13
C1957	D-7
C1958	D-7
C1959	E-12
C1961	D-12
C1976	D-8
C1977	F-7
C1978	F-8
C1981	E-8
C1982	E-8
C1984	C-7
C1986	E-5
C1987	C-7
C1988	B-8
C1989	B-8
C1990	F-7
CN53	F-5
CN59	C-1
CN60	B-14
CN051	F-4
CN052	F-2
CN061	C-1
CN371	F-9
CN372	C-9
D052	F-3
D053	F-4
D200	A-6
D300	C-12
D371	F-19
D372	E-20
D373	F-20
D374	F-19
D378	D-12
D379	C-8
D380	C-13
D381	C-13
D382	C-13
D383	C-8
D384	E-12
D385	E-12
D386	F-12
D388	E-8
D389	F-8
D390	E-12
D391	E-12
D392	F-12
D393	E-12
D394	F-12
D395	C-13
D396	B-8
D397	D-13
D398	E-13
D400	C-12
D401	E-13
D402	C-6
D403	C-7
D1501	C-17
D1503	D-20
D1951	C-5
D1952	D-6
D1953	D-8
D1955	D-13
D1956	E-8
D1957	C-8
IC109	E-16
IC110	D-19
IC300	B-12
IC371	F-19
IC372	D-13
IC600	E-4
IC1951	D-13
IC1952	E-6
IC1954	C-6
IC1955	C-8
L1	F-3
L200	B-15
L201	B-16
L202	C-15
L203	C-15
L204	D-15
L205	C-16
L206	B-15
L207	B-15
L400	E-8
L401	E-8
L404	F-8
L1501	A-3
L1502	C-3
L1503	B-3
L1504	C-4
L1505	B-4
L1506	A-4
L1507	A-5
L1508	B-5
L1509	C-16
L1951	D-13
PS001	C-2
PS002	C-2
PS003	C-2
PS004	C-2
Q200	B-7
Q201	B-7
Q202	A-7
Q203	A-7
Q204	A-7
Q205	A-6
Q206	A-7
Q207	B-6
Q210	B-8
Q211	B-8
Q213	B-6
Q216	A-15
Q218	A-15
Q304	B-8
Q305	B-8
Q371	F-19
Q373	E-19
Q374	E-19
Q375	E-20
Q376	D-2
Q377	E-19
Q379	E-3
Q380	D-3
Q382	C-12
Q383	D-12
Q384	C-12
Q385	D-12
Q386	E-19
Q603	D-5
Q604	E-5
Q605	E-4
Q606	D-4
Q607	F-4
Q608	E-4
Q609	E-5
Q610	D-4
Q611	E-5
Q1405	C-17
Q1406	A-18
Q1501	C-18
Q1502	B-18
Q1505	C-17
Q1506	A-18
Q1507	A-17
Q1508	A-17
Q1509	B-17
Q1511	C-16
Q1952	C-5
Q1954	C-6
Q1955	D-5
Q1959	D-8
Q1962	E-8
Q1963	D-8
Q1964	D-5
Q1966	C-5
R200	B-7
R201	B-7
R202	A-7
R203	B-7
R204	B-7
R205	A-6
R206	A-6
R207	A-7
R208	A-6
R209	B-6
R211	B-6
R213	B-7
R214	B-8
R215	A-5
R216	A-5
R217	A-6
R218	B-5
R219	B-6
R220	A-6
R221	B-6
R223	A-15
R224	A-15
R225	B-16
R226	A-16
R227	A-15
R228	A-15
R233	A-7
R235	A-6
R237	B-7
R240	A-7
R302	A-13
R303	A-13
R304	B-13
R312	B-12
R313	B-12
R314	B-13
R316	B-12
R317	B-8
R318	B-8
R372	F-20
R373	E-19
R374	F-19
R375	F-19
R376	F-20
R377	F-20
R378	F-19
R379	F-19
R380	E-19
R381	F-19
R382	F-19
R383	E-20
R384	F-19
R385	D-2
R386	F-20
R387	F-19
R388	F-20
R390	E-2
R392	C-12
R394	D-12
R395	E-19
R396	D-13
R397	C-12
R398	C-12
R399	C-12
R400	C-12
R401	F-12
R402	F-12
R403	F-12
R405	F-12
R407	F-8
R408	F-12
R409	E-8
R414	E-12
R415	E-12
R416	C-13
R417	C-12
R418	C-12
R419	E-12
R420	E-8
R605	D-4
R606	E-4
R607	D-4
R608	E-4
R609	E-3
R610	E-4
R611	E-4
R612	D-4
R613	F-4
R614	D-4
R615	F-5
R1402	E-16
R1403	D-16
R1404	F-16
R1406	F-17
R1407	F-17
R1408	F-17
R1409	E-18
R1410	E-18
R1415	E-18
R1418	F-18
R1419	E-17
R1421	E-18
R1422	D-18
R1423	E-17
R1424	D-18
R1425	D-17
R1426	D-17
R1429	D-16
R1430	F-18
R1431	E-18
R1460	E-17
R1463	E-15
R1466	F-18
R1472	F-17
R1476	B-15
R1477	E-17
R1501	D-20
R1502	D-20
R1503	E-19
R1504	E-19
R1505	D-20
R1506	E-20
R1508	E-20
R1509	C-20
R1510	C-20
R1511	C-20
R1512	D-19
R1513	E-19
R1514	D-19
R1515	C-19
R1516	C-19
R1517	C-19
R1518	E-20
R1519	E-20
R1522	C-20
R1523	C-15
R1524	C-16
R1525	E-19
R1528	C-16
R1529	C-20
R1953	C-6
R1954	C-5
R1955	D-6
R1956	C-8
R1957	D-8
R1958	C-8
R1959	C-7
R1960	F-5
R1962	E-13
R1963	E-5
R1964	E-5
R1965	E-5
R1966	E-5
R1967	E-5
R1969	E-5
R1970	D-5
R1972	E-5
R1973	F-5
R1974	E-5
R1975	E-5
R1976	E-5
R1977	E-5
R1978	D-5
R1979	C-7
R1980	C-7
R1983	F-6
R1984	F-7
R1987	F-7
R1988	F-7
R1991	F-7
R1992	F-7
R1993	F-7
R1994	F-6
R1995	F-6
R1996	F-7
R1997	F-7
R1998	F-7
R1999	F-6
R2000	F-7
R2001	E-12
R2003	F-7
R2006	F-7
R2011	D-12
R2012	F-7
R2013	E-13
R2015	E-8
R2017	E-13
R2018	E-8
R2019	E-13
R2020	E-8
R2021	F-7
R2022	E-8
R2023	E-8
R2024	E-8
R2027	E-13
R2028	F-8
R2029	F-8
R2030	E-8
R2031	E-8
R2032	F-7
R2033	F-7
R2036	C-7
R2037	C-7
R2038	C-7
R2039	D-5
R2040	F-8
R2041	D-7
R2042	F-7
R2043	D-5
R2044	C-7
R2046	C-7
R2047	D-8
R2048	D-8
R2049	B-8
T1503	C-5
X1951	D-8
X1952	D-6


VD-25
Camera, Y/C Processor, Video I/O, Video Processor, Servo System Control, REC/PB Head Amp, Mode Control, Motor Drive, Connector
KY-33
(Function Switch)
FP-354
(Steady Shot Sensor)
SL-54
(Connector)
FP-340
(CCD Imager)
FP-342
(Jack)
VA-96
Mode Control, Audio, Easy Connector, Video, Audio I/O, Speaker Output, Power, Connector
CH-92
(Camera Head, Lens drive, Steady Shot)

VA-96 (MODE CONTROL) SCHEMATIC DIAGRAM

— Ref No. VA-96 BOARD: 3,000 series —


VA-96 BOARD(1/5)
(HI BLOCK)
no mark : REC/PB mode
R : REC mode
P : PB mode
TO VA-96 BOARD(4/5) (SEE PAGE 4-70)
TO VA-96 BOARD(5/5) (SEE PAGE 4-74)
TO VA-96 BOARD(5/5) (SEE PAGE 4-75)
TO VA-96 BOARD(3/5) (SEE PAGE 4-67)
TO VA-96 BOARD(5/5) (SEE PAGE 4-75)
TO VA-96 BOARD(3/5) (SEE PAGE 4-65)
TO VA-96 BOARD(5/5) (SEE PAGE 4-75)
TO VA-96 BOARD(4/5) (SEE PAGE 4-72)
Q1952 3.2/3.15V SELECT SW
Q1954 VTR +B SWITCH
IC1951 INITIAL RESET BACKUP VCC
IC1951 S-8423NFS-T2
Q1955 SWITCH
Q1966 SWITCH
Q1964 UN9113-(TXE) SWITCH
Q1959, 1963 BATTERY CHARGE DETECTOR
IC1952 MODE CONTROL
IC1952 S579108PZ-TEB
IC1954 EEPROM
IC1954 AK6420HM-E2
Q1962 TALLY LED DRIVE
Q1962 XP4213-TXE
X1952 20MHz
X1951 32.768kHz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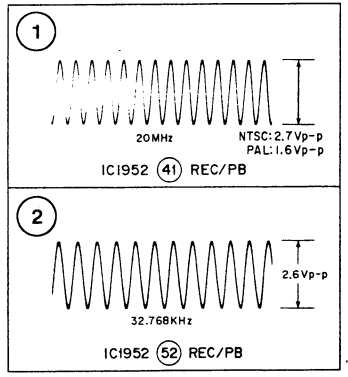
IC1952
MODE CONTROL
IC1952
S579108PZ-TEB
IC1954
AK6420HM-E2
EEPROM
IC1955
TL1596CPW
LANC I/O
Q1962
XP4213-TXE
Q1962
TALLY LED
DRIVE
X1952
20MHz
X1951
32.768kHz
L1951
10uH
CN53 14P
LCD_COM_XDATA
HI_SO
XHI_SCK
XCS_LCD_DRIVER
KEY_AD0
KEY_AD1
KEY_AD4
KEY_AD5
XS/S_SW
XCAM+STBY_SW
XVTR_MODE_SW
D_3.2V
REG_GND
REG_GND
TO
FP-344(FLEXIBLE)
(SEE PAGE
4-84)
BATT_SIG
ZOOM_SW
XEJECT_SW
XCHARGE_LED
XTALLY_LED
XF_TALLY_LED
⑧
TO
VA-96 BOARD(5/5)
(SEE PAGE 4-75)
①
②

VA-96 BOARD(HI BLOCK)



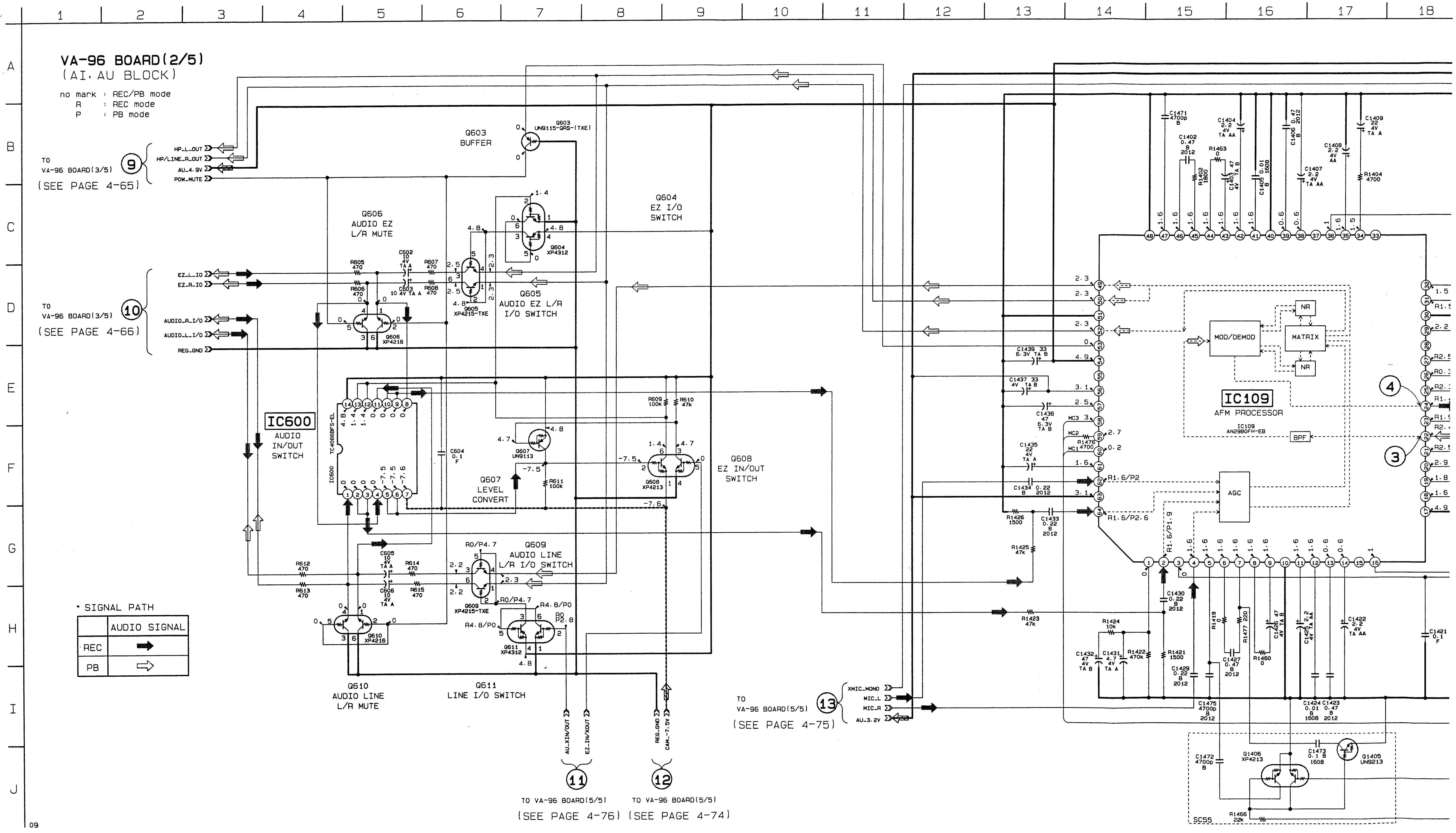
CCD-SC55 :NTSC model
CCD-SC55E:PAL model

MODE CONTROL
VA-96 (1/5)

VA-96 (AUDIO) SCHEMATIC DIAGRAM

— Ref No. VA-96 BOARD: 3,000 series —

- Refer to page 4–55 for Printed Wiring Board.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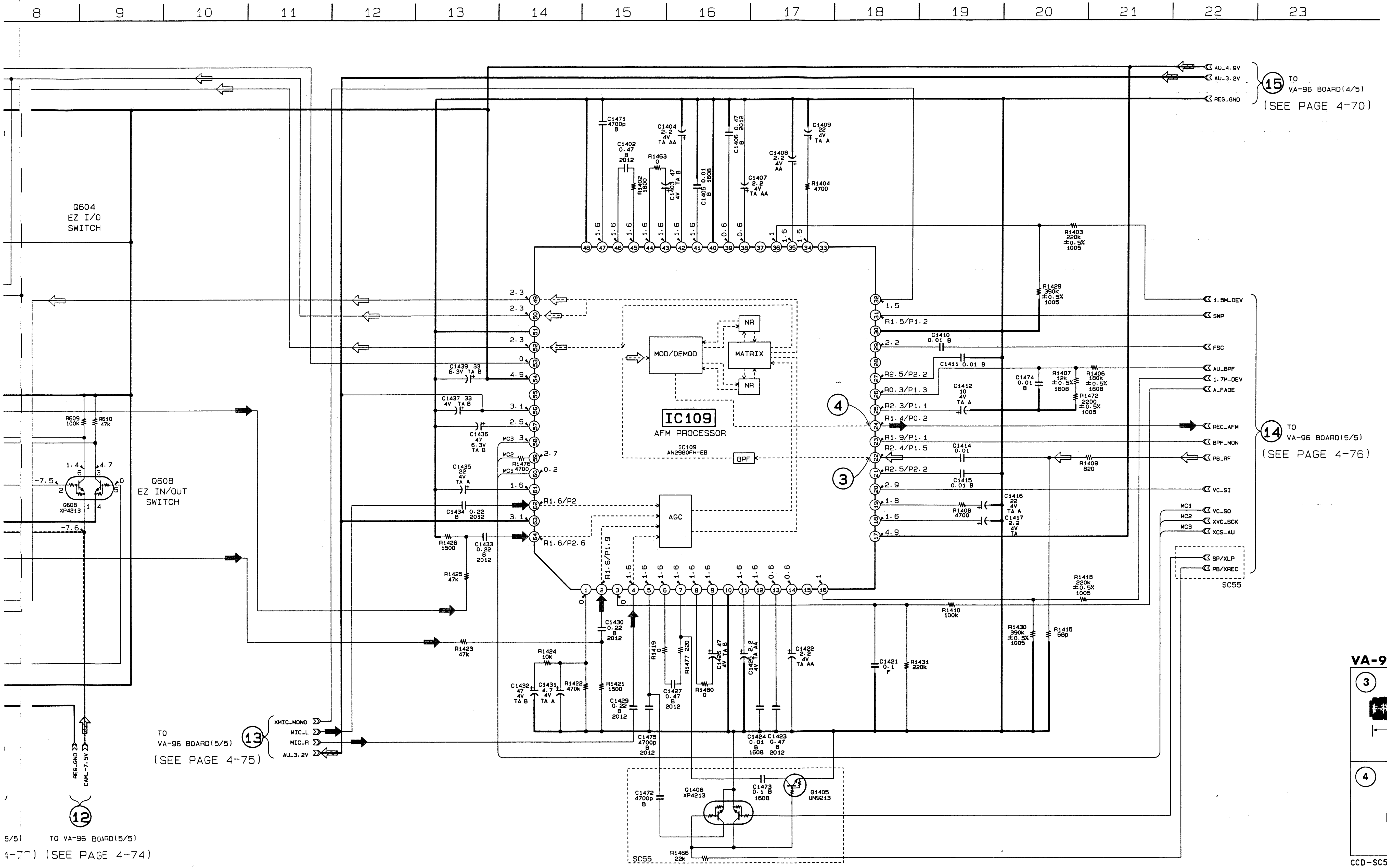
I
J
VA-96 BOARD(2/5)
(AI, AU BLOCK)
no mark : REC/PB mode
R : REC mode
P : PB mode
TO VA-96 BOARD(3/5)
(SEE PAGE 4-65)
HP_L_OUT
HP/LINE_R_OUT
AU_4.9V
POW_MUTE
EZ_L_IO
EZ_R_IO
AUDIO_R_I/O
AUDIO_L_I/O
REG_GND
(SEE PAGE 4-66)
Q603 BUFFER
UN9115-QRS-(TXE)
Q606 AUDIO EZ L/R MUTE
XP4216
Q604 EZ I/O SWITCH
XP4312
Q605 AUDIO EZ L/R I/O SWITCH
XP4215-TXE
IC600 AUDIO IN/OUT SWITCH
TC4066BFS-EL
Q607 LEVEL CONVERT
UN9113
Q608 EZ IN/OUT SWITCH
XP4213
Q609 AUDIO LINE L/R I/O SWITCH
XP4215-TXE
Q610 AUDIO LINE L/R MUTE
XP4216
Q611 LINE I/O SWITCH
XP4312
• SIGNAL PATH
AUDIO SIGNAL
REC
PB
AU_XIN/OUT
EZ_IN/XOUT
REG_GND
CAM_-7.5V
TO VA-96 BOARD(5/5)
(SEE PAGE 4-76)
TO VA-96 BOARD(5/5)
(SEE PAGE 4-74)
XMIC_MONO
MIC_L
MIC_R
AU_3.2V
TO VA-96 BOARD(5/5)
(SEE PAGE 4-75)
IC109 AFM PROCESSOR
AN2980FH-EB
MOD/DEMOD
MATRIX
NR
AGC
BPF
Q1406 XP4213
Q1405 UN9213
SC55
09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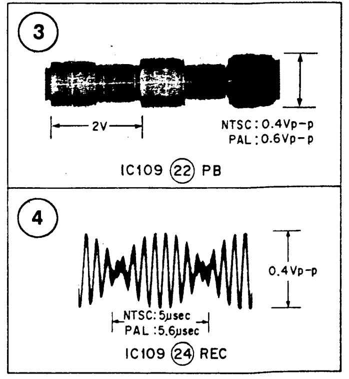
22
23
Q604
EZ I/O
SWITCH
Q608
EZ IN/OUT
SWITCH
Q608
XP4213
R609
100k
R610
47k
IC109
AFM PROCESSOR
IC109
AN2980FH-EB
MOD/DEMOD
MATRIX
NR
NR
AGC
BPF
AU_4.9V
AU_3.2V
REG_GND
TO
VA-96 BOARD(4/5)
(SEE PAGE 4-70)
1.5M_DEV
SWP
FSC
AU_BPF
1.7M_DEV
A_FADE
REC_AFM
BPF_MON
PB_RF
VC_SI
VC_SO
XVC_SCK
XCS_AU
SP/XLP
PB/XREC
SC55
TO
VA-96 BOARD(5/5)
(SEE PAGE 4-76)
XMIC_MONO
MIC_L
MIC_R
AU_3.2V
TO
VA-96 BOARD(5/5)
(SEE PAGE 4-75)
REG_GND
CAM_-7.5V
TO VA-96 BOARD(5/5)
(SEE PAGE 4-74)
Q1406
XP4213
Q1405
UN9213
R1466
22k
SC55
C1472
4700p
B
C1473
0.1 B
1608
R1403
220k
±0.5%
1005
R1429
390k
±0.5%
1005
R1418
220k
±0.5%
1005
R1410
100k
R1430
390k
±0.5%
1005
R1415
68p
R1409
820
R1408
4700
R1407
12k
±0.5%
1608
R1406
180k
±0.5%
1608
R1472
2200
±0.5%
1005
R1404
4700
R1426
1500
R1425
47k
R1423
47k
R1424
10k
R1422
470k
R1421
1500
R1419
0
R1477
220
R1460
0
R1431
220k
R1476
4700
R1463
0
R1402
1800

VA-96 BOARD (AU BLOCK)

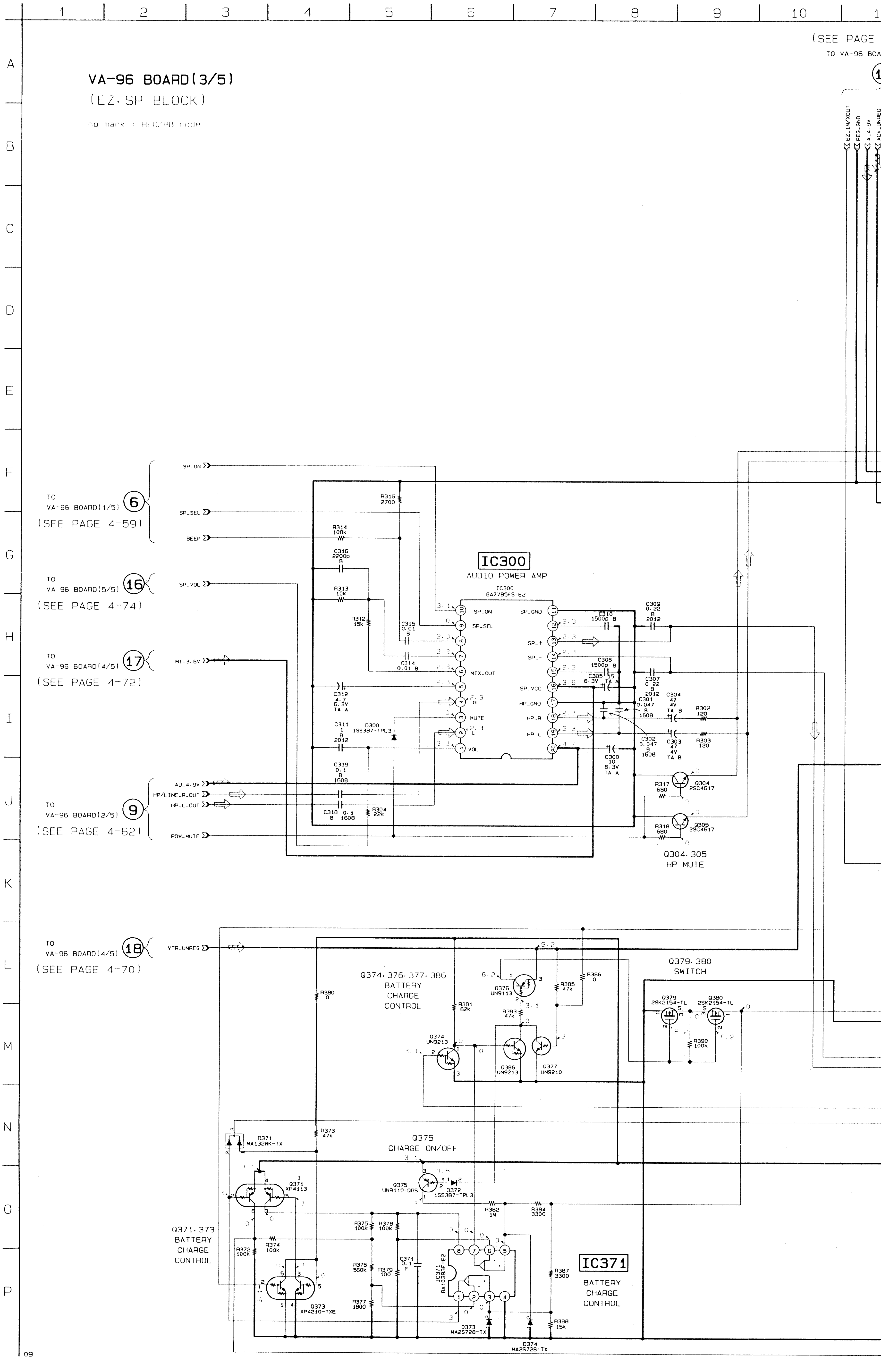

3
2V
NTSC:0.4Vp-p
PAL:0.6Vp-p
IC109 (22) PB
4
0.4Vp-p
NTSC:5μsec
PAL:5.6μsec
IC109 (24) REC

CCD-SC55 :NTSC model
CCD-SC55E:PAL model

VA-96 (EASY CONNECTOR, VIDEO, AUDIO I/O, SPEAKER OUTPUT) SCHEMATIC DIAGRAM

— Ref No. VA-96 BOARD: 3,000 series —

• Refer to page 4-55 for Printed Wir



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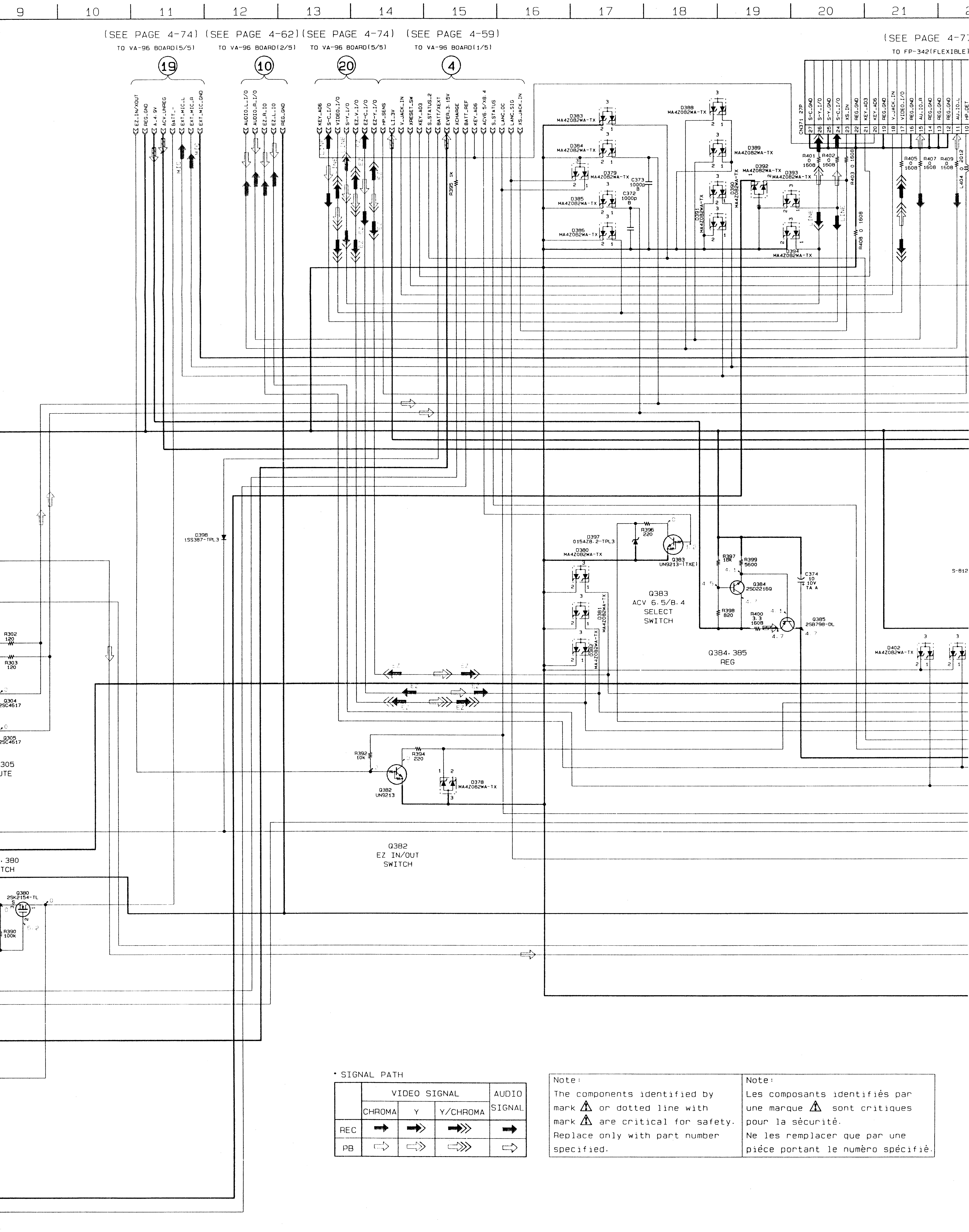
I
J
K
L
M
N
O
P
VA-96 BOARD(3/5)
(EZ, SP BLOCK)
no mark : REC/PB mode
(SEE PAGE
TO VA-96 BOA
EZ_IN/XOUT
REG_GND
A_4.9V
ACV_UNREG
TO VA-96 BOARD(1/5)
⑥
(SEE PAGE 4-59)
SP_ON
SP_SEL
BEEP
TO VA-96 BOARD(5/5)
⑯
(SEE PAGE 4-74)
SP_VOL
TO VA-96 BOARD(4/5)
⑰
(SEE PAGE 4-72)
MT_3.6V
TO VA-96 BOARD(2/5)
⑨
(SEE PAGE 4-62)
AU_4.9V
HP/LINE_R_OUT
HP_L_OUT
POW_MUTE
TO VA-96 BOARD(4/5)
⑱
(SEE PAGE 4-70)
VTR_UNREG
IC300
AUDIO POWER AMP
IC300 BA7785FS-E2
SP_ON
SP_SEL
MIX_OUT
R
MUTE
L
VOL
SP_GND
SP_+
SP_-
SP_VCC
HP_GND
HP_R
HP_L
R316 2700
R314 100k
C316 2200p B
R313 10k
R312 15k
C315 0.01 B
C314 0.01 B
C312 4.7 6.3V TA A
C311 1 B 2012
D300 1SS387-TPL3
C319 0.1 B 1608
C318 0.1 B 1608
R304 22K
C309 0.22 B 2012
C310 1500p B
C306 1500p B
C305 15 6.3V TA A
C307 0.22 B 2012
C301 0.047 B 1608
C304 47 4V TA B
R302 120
C302 0.047 B 1608
C303 47 4V TA B
R303 120
C300 10 6.3V TA A
R317 680
Q304 2SC4617
R318 680
Q305 2SC4617
Q304, 305 HP MUTE
Q374, 376, 377, 386 BATTERY CHARGE CONTROL
R380 0
R381 82k
Q376 UN9113
R385 47k
R386 0
R383 47k
Q374 UN9213
Q386 UN9213
Q377 UN9210
Q379, 380 SWITCH
Q379 2SK2154-TL
Q380 2SK2154-TL
R390 100k
D371 MA132WK-TX
R373 47k
Q375 CHARGE ON/OFF
Q371 XP4113
Q375 UN9110-QRS
D372 1SS387-TPL3
R382 1M
R384 3300
R375 100k
R378 100k
R374 100k
R372 100k
Q371, 373 BATTERY CHARGE CONTROL
R376 560k
R379 100
C371 0.1 F
IC371 BA10393F-E2
R387 3300
IC371
BATTERY CHARGE CONTROL
R377 1800
Q373 XP4210-TXE
D373 MA2S728-TX
D374 MA2S728-TX
R388 15k
09

- Refer to page 4-55 for Printed Wiring Board.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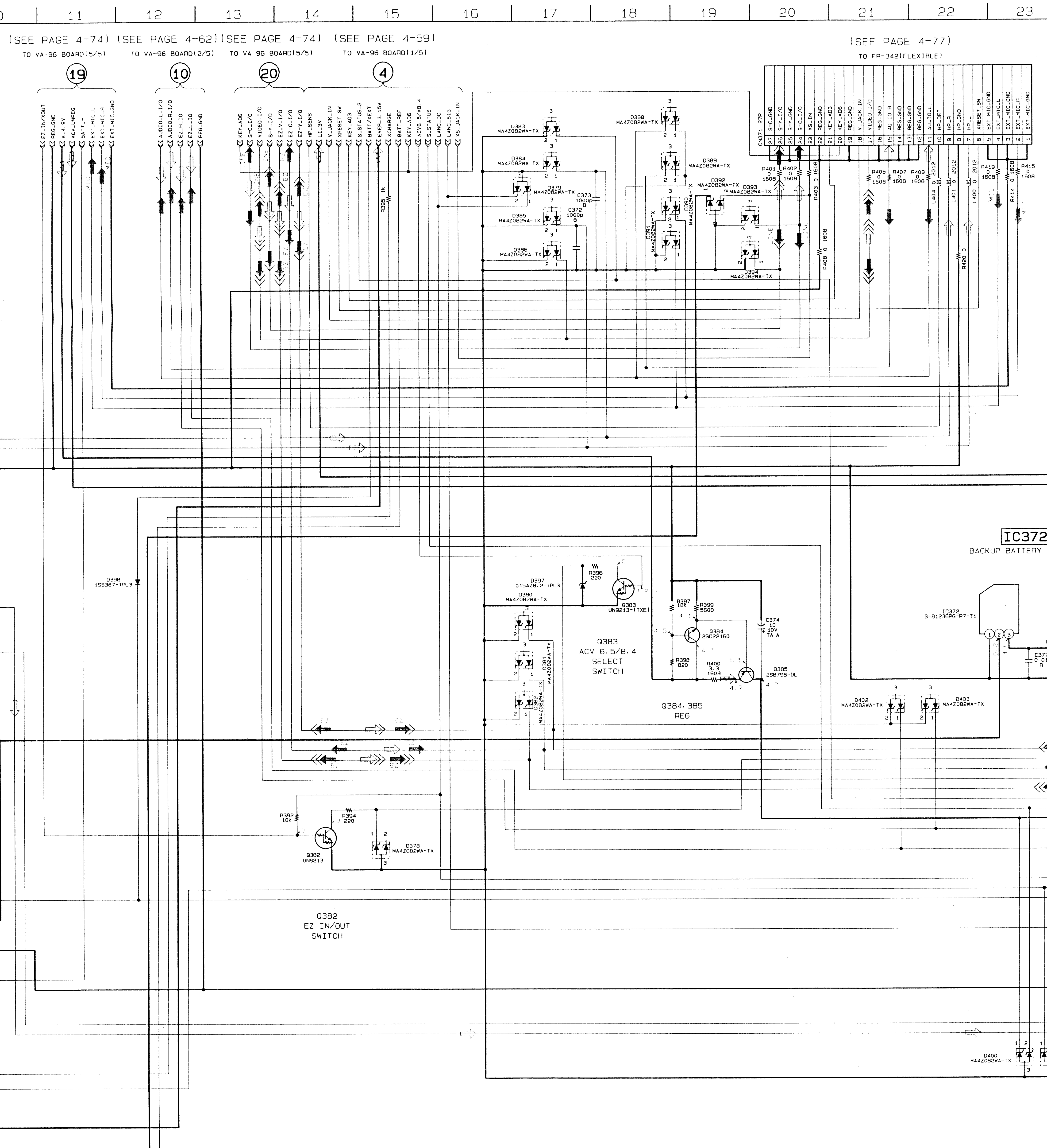
(SEE PAGE 4-74)
TO VA-96 BOARD(5/5)
19
(SEE PAGE 4-62)
TO VA-96 BOARD(2/5)
10
(SEE PAGE 4-74)
TO VA-96 BOARD(5/5)
20
(SEE PAGE 4-59)
TO VA-96 BOARD(1/5)
4
(SEE PAGE 4-7
TO FP-342(FLEXIBLE)
EZ_IN/XOUT
REG_GND
A_4.9V
ACV_UNREG
BATT_-
EXT_MIC_L
EXT_MIC_R
EXT_MIC_GND
AUDIO_L_I/O
AUDIO_R_I/O
EZ_R_IO
EZ_L_IO
REG_GND
KEY_AD6
S_C_I/O
VIDEO_I/O
S_Y_I/O
EZ_V_I/O
EZ_C_I/O
EZ_Y_I/O
HP_SENS
L_1.3V
V_JACK_IN
XRESET_SW
KEY_AD3
S_STATUS_2
BATT/XEXT
EVER_3.15V
XCHARGE
BATT_REF
KEY_AD6
ACV6.5/X8.4
S_STATUS
LANC_DC
LANC_SIG
XS_JACK_IN
CN371 27P
S_C_GND
S_Y_I/O
S_Y_GND
S_C_I/O
XS_IN
REG_GND
KEY_AD3
KEY_AD6
REG_GND
V_JACK_IN
VIDEO_I/O
REG_GND
AU_IO_R
REG_GND
REG_GND
REG_GND
AU_IO_L
HP_DET
R395 1k
D383 MA4Z082WA-TX
D384 MA4Z082WA-TX
D379 MA4Z082WA-TX
C373 1000p B
C372 1000p B
D385 MA4Z082WA-TX
D386 MA4Z082WA-TX
D388 MA4Z082WA-TX
D389 MA4Z082WA-TX
D390 MA4Z082WA-TX
D391 MA4Z082WA-TX
D392 MA4Z082WA-TX
D393 MA4Z082WA-TX
D394 MA4Z082WA-TX
R401 10 1608
R402 0 1608
R403 0 1608
R405 0 1608
R407 0 1608
R409 0 1608
R408 0 1608
L404
LINE
MIC
EZ
D398 1SS387-TPL3
D397 015AZ8.2-TPL3
R396 220
D380 MA4Z082WA-TX
Q383 UN9213-(TXE)
D381 MA4Z082WA-TX
D382 MA4Z082WA-TX
Q383
ACV 6.5/8.4
SELECT
SWITCH
R397 18K
R399 5600
Q384 2SD2216Q
R398 820
R400 3.3 1608
C374 10 10V TA A
Q385 2SB798-DL
Q384, 385
REG
D402 MA4Z082WA-TX
S-812
R302 120
R303 120
Q304 2SC4617
Q305 2SC4617
Q305
UTE
R392 10k
R394 220
Q382 UN9213
D378 MA4Z082WA-TX
Q382
EZ IN/OUT
SWITCH
, 380
TCH
Q380 2SK2154-TL
R390 100k

- SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡»	➡»»	➡
PB	⇨	⇨»	⇨»»	⇨

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

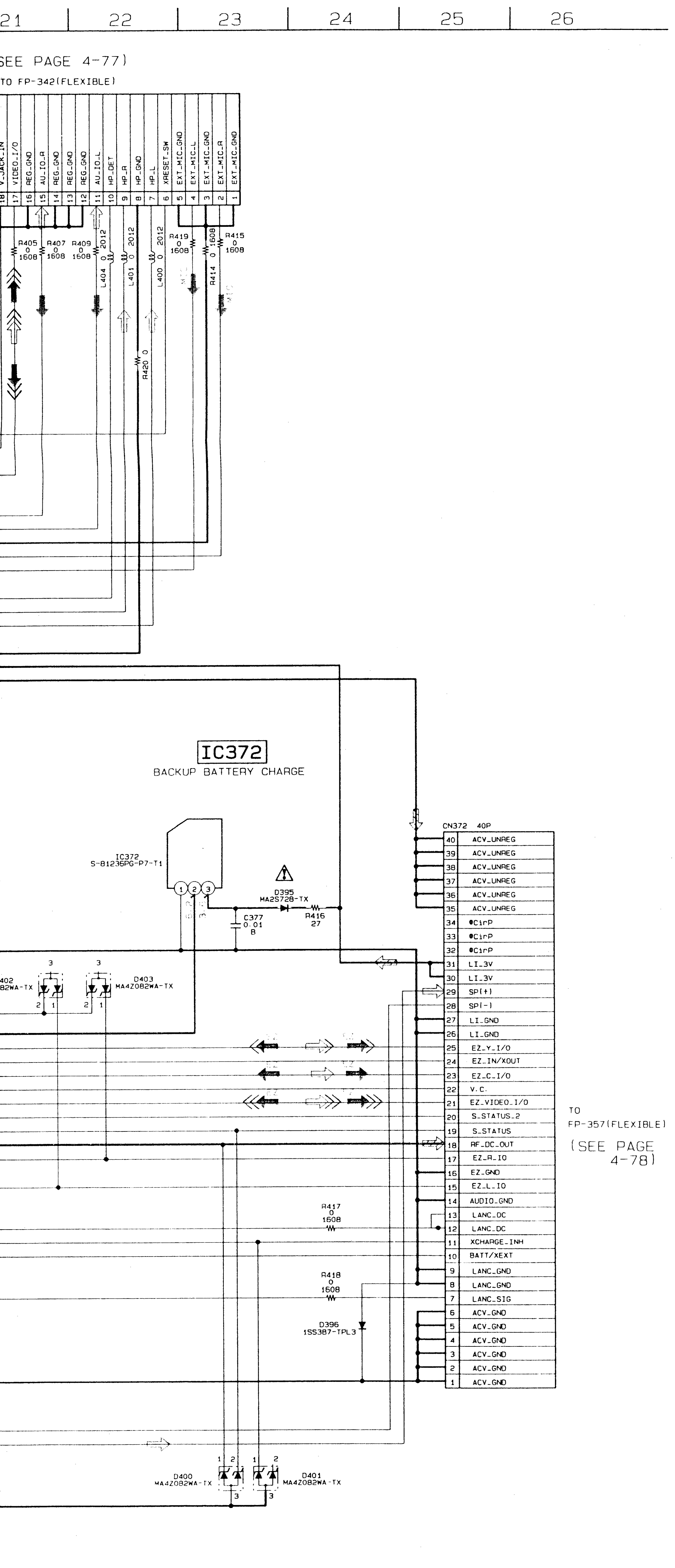
55 for Printed Wiring Board.


(SEE PAGE 4-74) TO VA-96 BOARD(5/5) 19
(SEE PAGE 4-62) TO VA-96 BOARD(2/5) 10
(SEE PAGE 4-74) TO VA-96 BOARD(5/5) 20
(SEE PAGE 4-59) TO VA-96 BOARD(1/5) 4
(SEE PAGE 4-77) TO FP-342(FLEXIBLE)
CN371 27P
IC372
BACKUP BATTERY
IC372 S-81236PG-P7-T1
Q383 ACV 6.5/8.4 SELECT SWITCH
Q384, 385 REG
Q382 EZ IN/OUT SWITCH
Q382 UN9213
Q383 UN9213-(TXE)
Q384 2SD2216Q
Q385 2SB798-DL
D397 01SAZ8.2-TPL3
D398 1SS387-TPL3
D378 MA4Z082WA-TX
D379 MA4Z082WA-TX
D380 MA4Z082WA-TX
D381 MA4Z082WA-TX
D382 MA4Z082WA-TX
D383 MA4Z082WA-TX
D384 MA4Z082WA-TX
D385 MA4Z082WA-TX
D386 MA4Z082WA-TX
D388 MA4Z082WA-TX
D389 MA4Z082WA-TX
D390 MA4Z082WA-TX
D391 MA4Z082WA-TX
D392 MA4Z082WA-TX
D393 MA4Z082WA-TX
D394 MA4Z082WA-TX
D400 MA4Z082WA-TX
D402 MA4Z082WA-TX
D403 MA4Z082WA-TX
C372 1000p B
C373 1000p B
C374 10 10V TA A
R392 10k
R394 220
R395 1k
R396 220
R397 18k
R398 820
R399 5600
R400 3.3 1608

• SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡»	➡»»	➡
PB	⇨	⇨»	⇨»»	⇨

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.


21
22
23
24
25
26
SEE PAGE 4-77)
TO FP-342(FLEXIBLE)
V_JACK_IN
VIDEO_I/O
REG_GND
AU_IO_R
REG_GND
REG_GND
REG_GND
AU_IO_L
HP_DET
HP_R
HP_GND
HP_L
XRESET_SW
EXT_MIC_GND
EXT_MIC_L
EXT_MIC_GND
EXT_MIC_R
EXT_MIC_GND
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
R405 0 1608
R407 0 1608
R409 0 1608
L404 0 2012
L401 0 2012
L400 0 2012
R419 0 1608
R414 0 1608
R415 0 1608
R420 0
IC372
BACKUP BATTERY CHARGE
IC372
S-81236PG-P7-T1
D395
MA2S728-TX
R416
27
C377
0.01
B
402
82WA-TX
D403
MA4Z082WA-TX
CN372 40P
40 ACV_UNREG
39 ACV_UNREG
38 ACV_UNREG
37 ACV_UNREG
36 ACV_UNREG
35 ACV_UNREG
34 ●CirP
33 ●CirP
32 ●CirP
31 LI_3V
30 LI_3V
29 SP(+)
28 SP(-)
27 LI_GND
26 LI_GND
25 EZ_Y_I/O
24 EZ_IN/XOUT
23 EZ_C_I/O
22 V.C.
21 EZ_VIDEO_I/O
20 S_STATUS_2
19 S_STATUS
18 RF_DC_OUT
17 EZ_R_IO
16 EZ_GND
15 EZ_L_IO
14 AUDIO_GND
13 LANC_DC
12 LANC_DC
11 XCHARGE_INH
10 BATT/XEXT
9 LANC_GND
8 LANC_GND
7 LANC_SIG
6 ACV_GND
5 ACV_GND
4 ACV_GND
3 ACV_GND
2 ACV_GND
1 ACV_GND
TO
FP-357(FLEXIBLE)
(SEE PAGE
4-78)
R417
0
1608
R418
0
1608
D396
1SS387-TPL3
D400
MA4Z082WA-TX
D401
MA4Z082WA-TX

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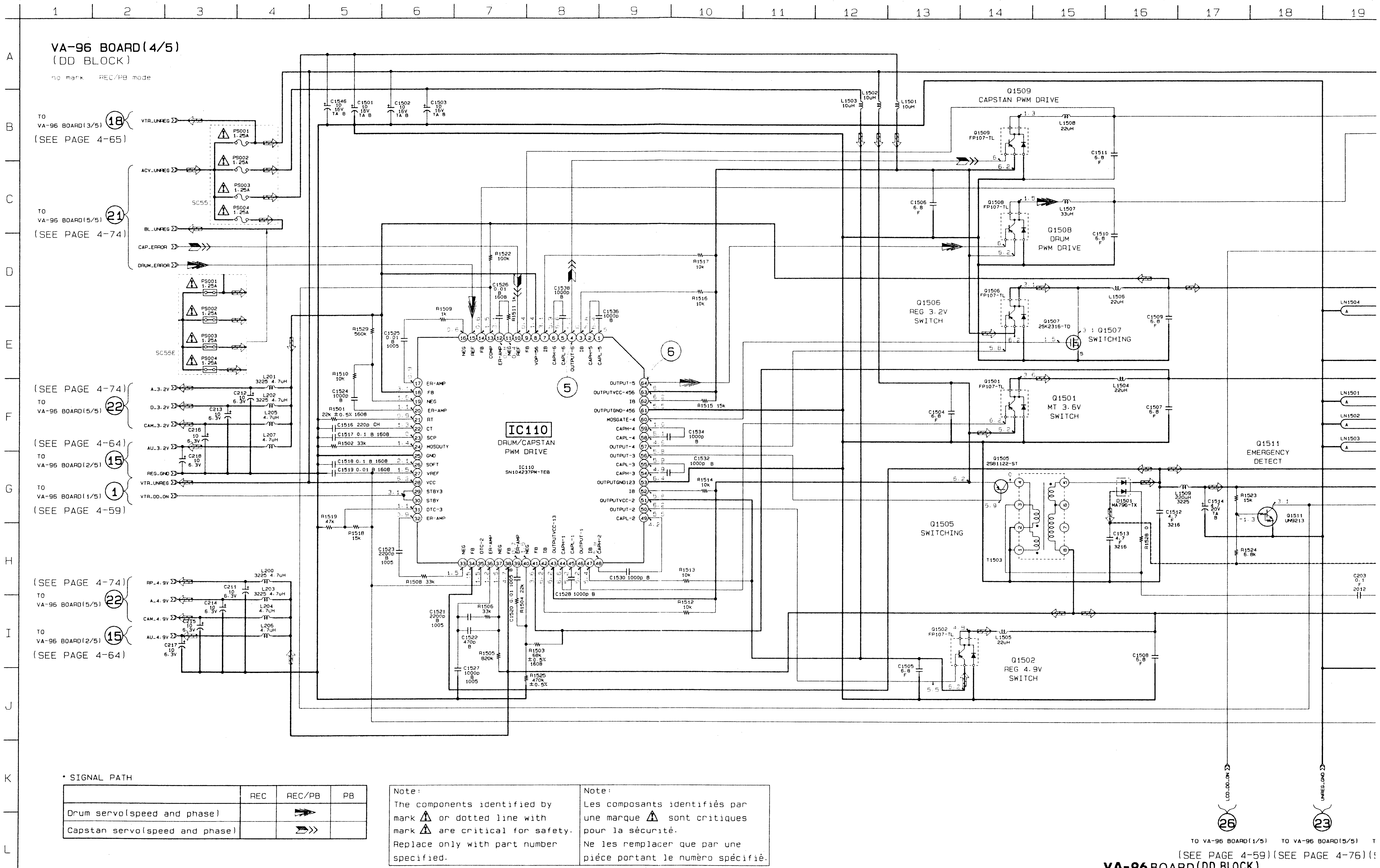
pécifié.

VA-96 BOARD(4/5)

(DD BLOCK)

no mark : REC/PB mode


1
2
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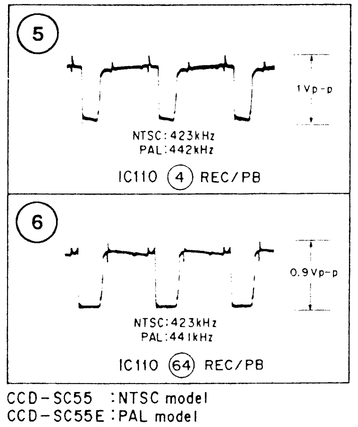
10
11
12
13
14
15
16
17
18
19
A
B
C
D
E
F
G
H
I
J
K
L
TO VA-96 BOARD(3/5) 18 (SEE PAGE 4-65)
VTR_UNREG
ACV_UNREG
TO VA-96 BOARD(5/5) 21 (SEE PAGE 4-74)
BL_UNREG
CAP_ERROR
DRUM_ERROR
SC55
SC55E
PS001 1.25A
PS002 1.25A
PS003 1.25A
PS004 1.25A
(SEE PAGE 4-74) TO VA-96 BOARD(5/5) 22
A_3.2V
D_3.2V
CAM_3.2V
(SEE PAGE 4-64) TO VA-96 BOARD(2/5) 15
AU_3.2V
REG_GND
TO VA-96 BOARD(1/5) 1 (SEE PAGE 4-59)
VTR_UNREG
VTR_DD_ON
(SEE PAGE 4-74) TO VA-96 BOARD(5/5) 22
RP_4.9V
A_4.9V
CAM_4.9V
TO VA-96 BOARD(2/5) 15 (SEE PAGE 4-64)
AU_4.9V
L201 3225 4.7uH
L202 3225 4.7uH
L205 4.7uH
L207 4.7uH
L200 3225 4.7uH
L203 3225 4.7uH
L204 4.7uH
L206 4.7uH
C1546 10 16V TA B
C1501 10 16V TA B
C1502 10 16V TA B
C1503 10 16V TA B
IC110
DRUM/CAPSTAN PWM DRIVE
IC110 SN104237PM-TEB
5
6
R1522 100k
C1526 0.01 B 1608
R1511 1k
C1538 1000p B
C1536 1000p B
R1517 10k
R1516 10k
R1509 1k
R1529 560k
C1525 0.01 B 1005
R1510 10k
C1524 1000p B
R1501 22k ±0.5% 1608
C1516 220p CH
C1517 0.1 B 1608
R1502 33k
C1518 0.1 B 1608
C1519 0.01 B 1608
R1519 47k
R1518 15k
C1523 2200p B 1005
R1508 33k
C1521 2200p B 1005
R1506 33k
C1522 470p B
R1505 820k
C1527 1000p B 1005
C1520 0.01 1005
R1504 22k
R1503 68k ±0.5% 1608
R1525 470k ±0.5%
C1530 1000p B
C1528 1000p B
R1513 10k
R1512 10k
R1515 15k
C1534 1000p B
C1532 1000p B
R1514 10k
ER-AMP
FB
NEG
RT
CT
SCP
HOSDUTY
GND
SOFT
VREF
VCC
STBY3
STBY
DTC-3
OUTPUT-5
OUTPUTVCC-456
IB
OUTPUTGND-456
MOSGATE-4
CAPH-4
CAPL-4
OUTPUT-4
OUTPUT-3
CAPL-3
CAPH-3
OUTPUTGND123
OUTPUTVCC-2
OUTPUT-2
CAPL-2
L1503 10uH
L1502 10uH
L1501 10uH
Q1509 CAPSTAN PWM DRIVE
Q1509 FP107-TL
L1508 22uH
C1511 6.8 F
C1506 6.8 F
Q1508 FP107-TL
L1507 33uH
Q1508 DRUM PWM DRIVE
C1510 6.8 F
Q1506 FP107-TL
Q1506 REG 3.2V SWITCH
L1506 22uH
Q1507 2SK2316-TD
Q1507 SWITCHING
C1509 6.8 F
Q1501 FP107-TL
L1504 22uH
Q1501 MT 3.6V SWITCH
C1504 6.8 F
C1507 6.8 F
Q1505 2SB1122-ST
Q1505 SWITCHING
T1503
D1501 MA796-TX
C1513 4.7 F 3216
R1528 0
L1509 220uH 3225
C1512 4.7 F 3216
C1514 4.7 20V TA B
R1523 15k
R1524 6.8k
Q1511 UN9213
Q1511 EMERGENCY DETECT
LN1504
LN1501
LN1502
LN1503
C203 0.1 F 2012
Q1502 FP107-TL
L1505 22uH
Q1502 REG 4.9V SWITCH
C1505 6.8 F
C1508 6.8 F
CCD_DD_ON
UNREG_GND
26
23
TO VA-96 BOARD(1/5)
TO VA-96 BOARD(5/5)
(SEE PAGE 4-59)
(SEE PAGE 4-76)
09

• SIGNAL PATH

	REC	REC/PB	PB
Drum servo(speed and phase)		➡	
Capstan servo(speed and phase)		⇨>>	

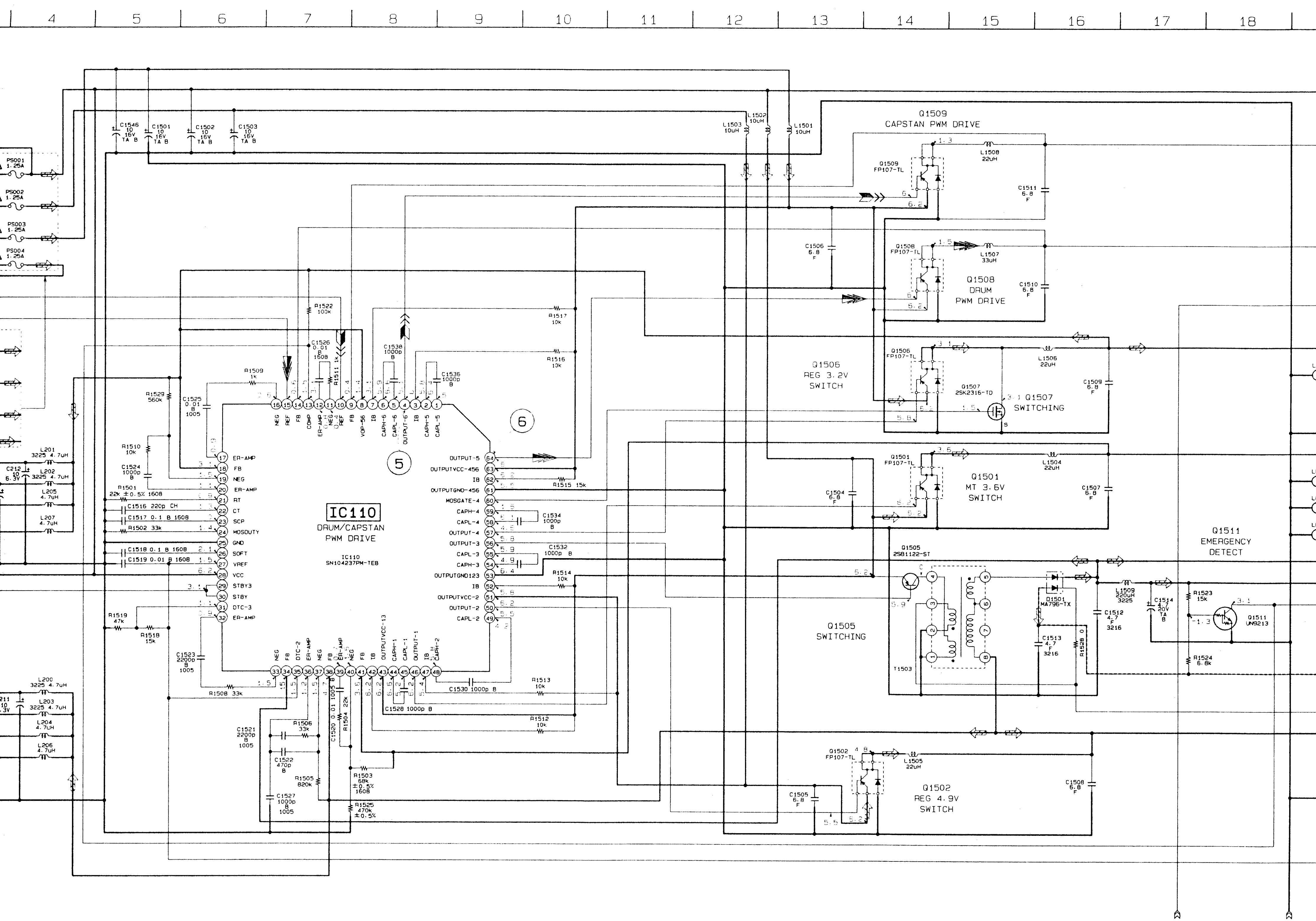
Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

VA-96 BOARD(DD BLOCK)



CCD-SC55 :NTSC model
CCD-SC55E :PAL model

- Refer to page 4–55 for Printed Wiring Board.



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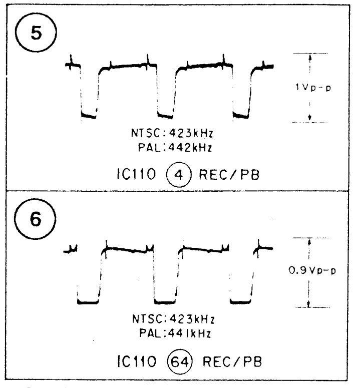
14
15
16
17
18
IC110
DRUM/CAPSTAN
PWM DRIVE
IC110
SN104237PM-TEB
Q1509
CAPSTAN PWM DRIVE
Q1508
DRUM
PWM DRIVE
Q1506
REG 3.2V
SWITCH
Q1507
SWITCHING
Q1501
MT 3.6V
SWITCH
Q1505
SWITCHING
Q1502
REG 4.9V
SWITCH
Q1511
EMERGENCY
DETECT
PS001
PS002
PS003
PS004
L1501 10uH
L1502 10uH
L1503 10uH
L1504 22uH
L1505 22uH
L1506 22uH
L1507 33uH
L1508 22uH
L1509 220uH
T1503
D1501 MA796-TX
Q1505 2SB1122-ST
Q1507 2SK2316-TD
Q1511 UN9213
ER-AMP
FB
NEG
RT
CT
SCP
MOSDUTY
GND
SOFT
VREF
VCC
STBY3
STBY
DTC-3
OUTPUT-5
OUTPUTVCC-456
IB
OUTPUTGND-456
MOSGATE-4
CAPH-4
CAPL-4
OUTPUT-4
OUTPUT-3
CAPL-3
CAPH-3
OUTPUTGND123
OUTPUTVCC-2
OUTPUT-2
CAPL-2
LCD_DD_ON
UNREG_GND
26
23
TO VA-96 BOARD(1/5)
TO VA-96 BOARD(5

	REC	REC/PB	PB
		⋙	
e)		⫸⟫	

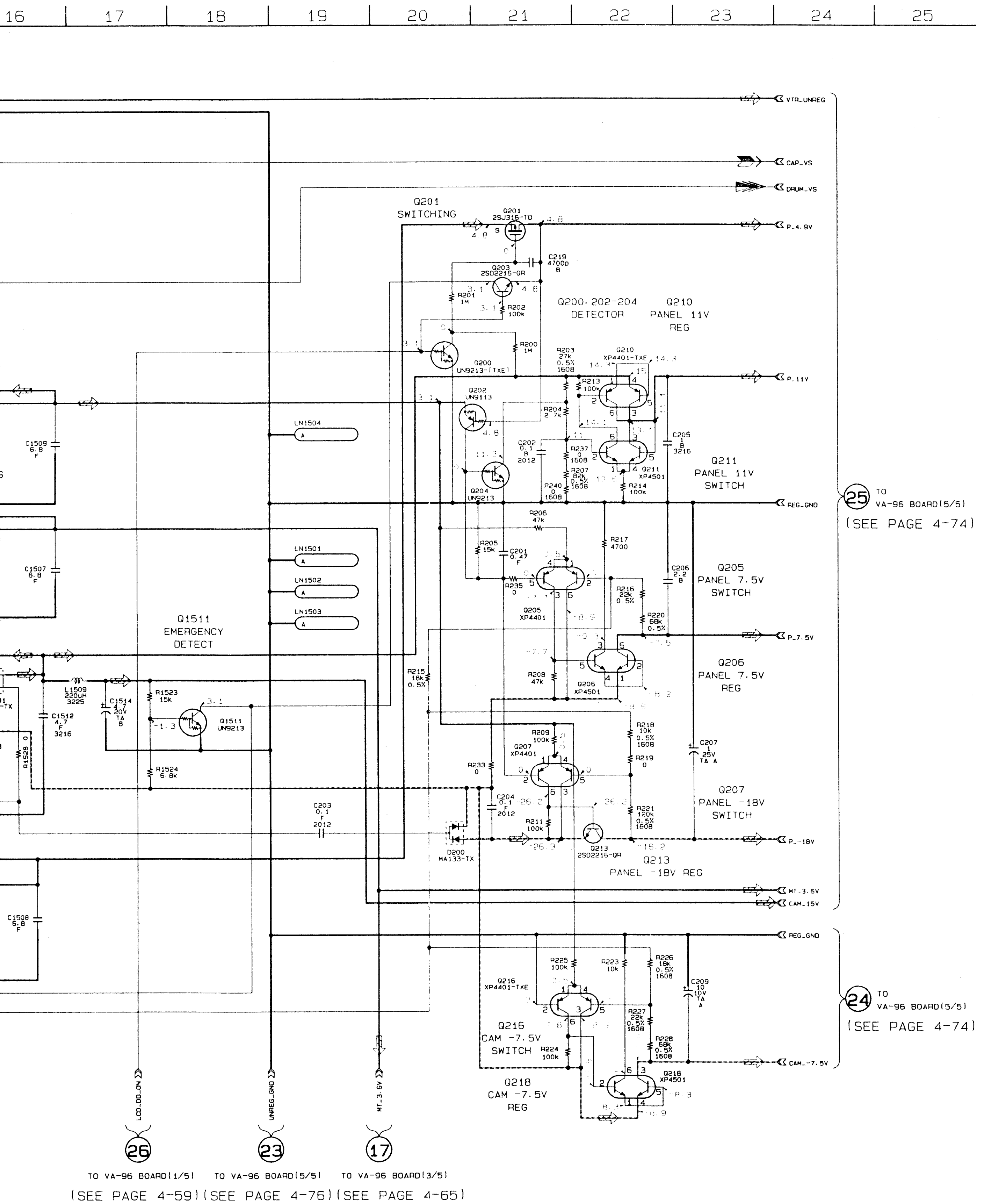
Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

(SEE PAGE 4-59) (SEE PAGE 4-

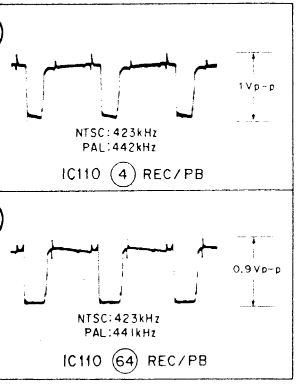
VA-96 BOARD(DD BLOCK)



CCD-SC55 :NTSC model
CCD-SC55E :PAL model


16
17
18
19
20
21
22
23
24
25
VTR_UNREG
CAP_VS
DRUM_VS
P_4.9V
P_11V
REG_GND
P_7.5V
P_-18V
MT_3.6V
CAM_15V
REG_GND
CAM_-7.5V
Q201
SWITCHING
Q201
2SJ316-TD
C219
4700p
B
Q203
2SD2216-QR
R201
1M
R202
100k
Q200,202-204
DETECTOR
Q210
PANEL 11V
REG
R200
1M
Q200
UN9213-(TXE)
R203
27k
0.5%
1608
Q210
XP4401-TXE
Q202
UN9113
R213
100k
R204
2.7k
C202
0.1
B
2012
R237
1608
C205
1
B
3216
Q211
PANEL 11V
SWITCH
R207
82k
0.5%
1608
Q211
XP4501
R214
100k
R240
0
1608
Q204
UN9213
LN1504
R206
47k
R217
4700
R205
15k
C201
0.47
F
R235
0
C206
2.2
B
Q205
PANEL 7.5V
SWITCH
R216
22k
0.5%
Q205
XP4401
R220
68k
0.5%
LN1501
LN1502
LN1503
Q1511
EMERGENCY
DETECT
R208
47k
Q206
XP4501
Q206
PANEL 7.5V
REG
R215
18k
0.5%
L1509
220uH
3225
C1514
4.7
20V
TA
B
R1523
15k
Q1511
UN9213
C1512
4.7
F
3216
R1524
6.8k
C1509
6.8
F
C1507
6.8
F
R218
10k
0.5%
1608
R209
100k
Q207
XP4401
R219
0
C207
1
25V
TA A
R233
0
C204
0.1
F
2012
R211
100k
C203
0.1
F
2012
R221
120k
0.5%
1608
Q207
PANEL -18V
SWITCH
D200
MA133-TX
Q213
2SD2215-QR
Q213
PANEL -18V REG
C1508
6.8
F
R225
100k
R223
10k
R226
18k
0.5%
1608
Q216
XP4401-TXE
C209
10
10V
TA
A
R227
22k
0.5%
1608
Q216
CAM -7.5V
SWITCH
R224
100k
R228
68k
0.5%
1608
Q218
XP4501
Q218
CAM -7.5V
REG
LCD_DD_ON
UNREG_GND
MT_3.6V
4.8
14.3
-26.9
-18.2
㉕ TO VA-96 BOARD(5/5)
(SEE PAGE 4-74)
㉔ TO VA-96 BOARD(5/5)
(SEE PAGE 4-74)
㉖ TO VA-96 BOARD(1/5)
(SEE PAGE 4-59)
㉓ TO VA-96 BOARD(5/5)
(SEE PAGE 4-76)
⑰ TO VA-96 BOARD(3/5)
(SEE PAGE 4-65)

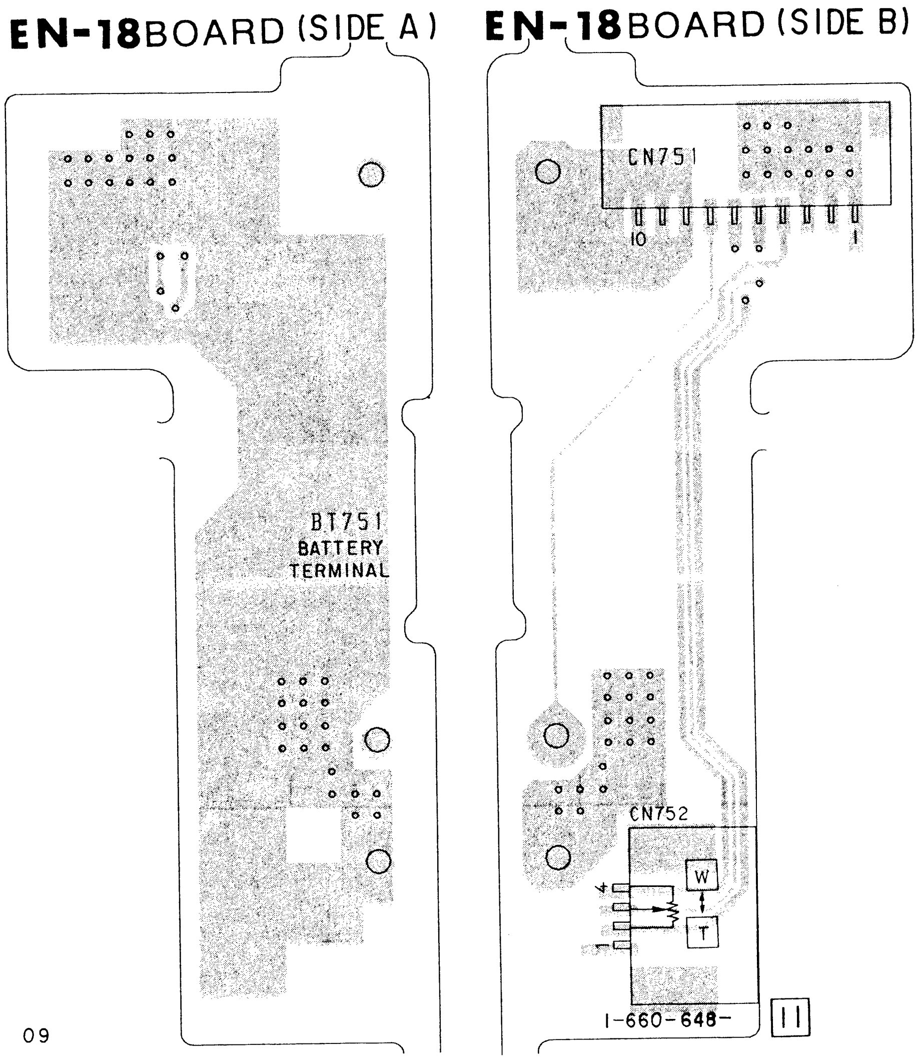
-96 BOARD(DD BLOCK)

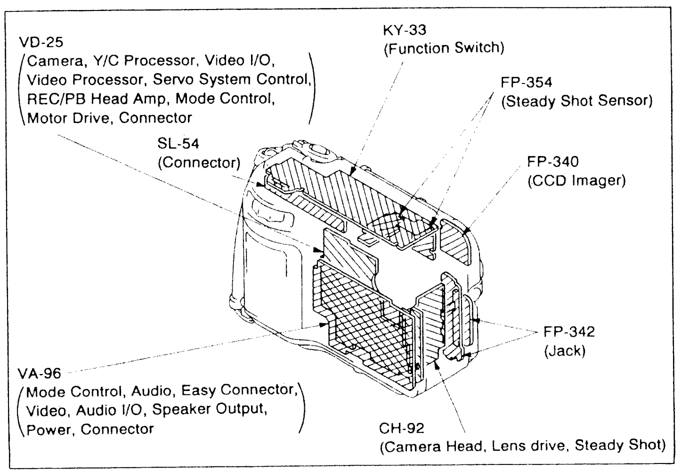


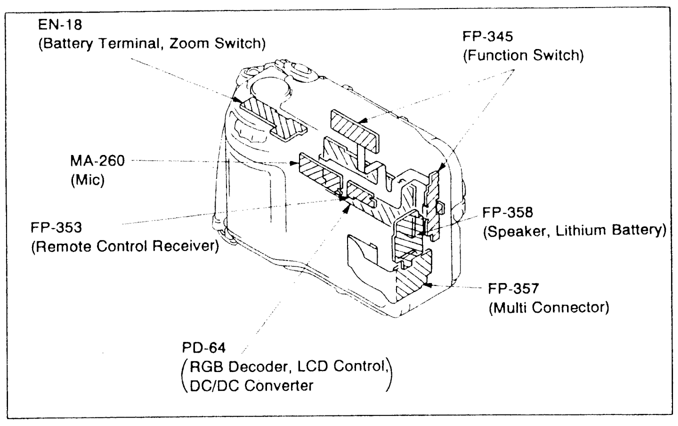
SC55 :NTSC model
SC55E :PAL model

EN-18 (BATTERY TERMINAL, ZOOM SWITCH) PRINTED WIRING BOARD

— Ref No. EN-18 BOARD: 3,000 series —

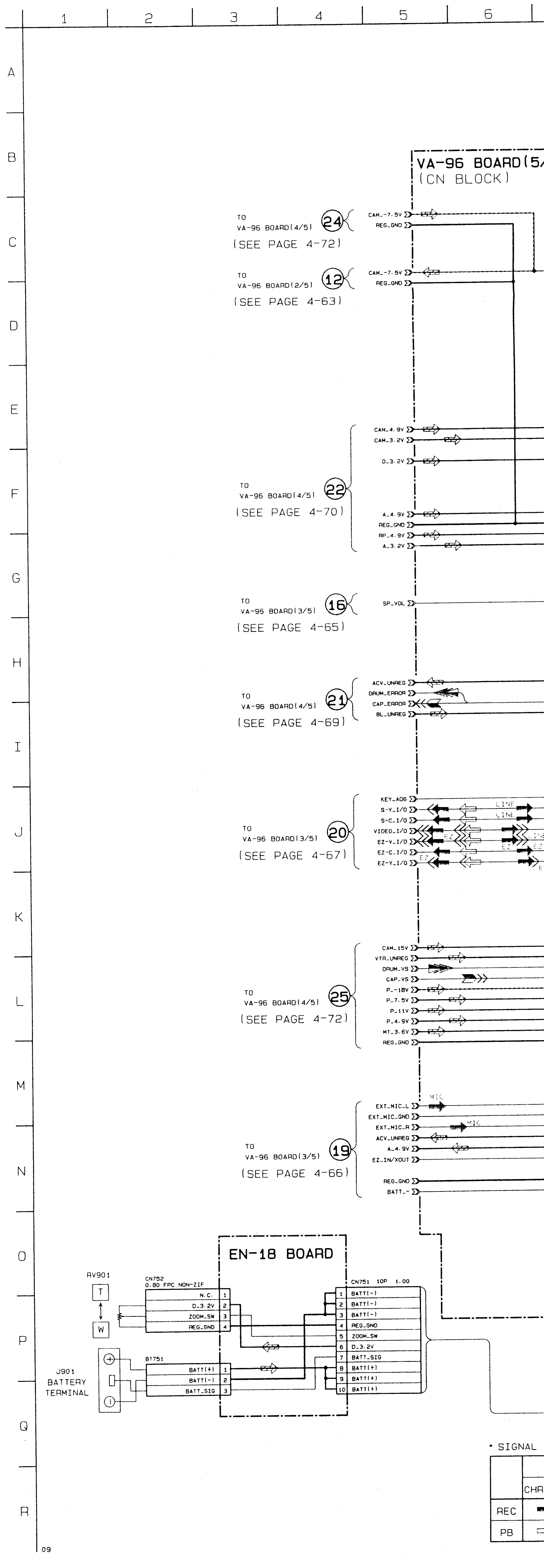

EN-18BOARD (SIDE A)
EN-18BOARD (SIDE B)
BT751
BATTERY
TERMINAL
CN751
10
1
CN752
W
T
4
1
1-660-648-
11
09


VD-25
(Camera, Y/C Processor, Video I/O, Video Processor, Servo System Control, REC/PB Head Amp, Mode Control, Motor Drive, Connector)
KY-33
(Function Switch)
FP-354
(Steady Shot Sensor)
SL-54
(Connector)
FP-340
(CCD Imager)
FP-342
(Jack)
VA-96
(Mode Control, Audio, Easy Connector, Video, Audio I/O, Speaker Output, Power, Connector)
CH-92
(Camera Head, Lens drive, Steady Shot)


EN-18
(Battery Terminal, Zoom Switch)
FP-345
(Function Switch)
MA-260
(Mic)
FP-353
(Remote Control Receiver)
FP-358
(Speaker, Lithium Battery)
FP-357
(Multi Connector)
PD-64
(RGB Decoder, LCD Control, DC/DC Converter)

VA-96 (CONNECTOR), EN-18 (BATTERY TERMINAL, ZOOM SWITCH) SCHE

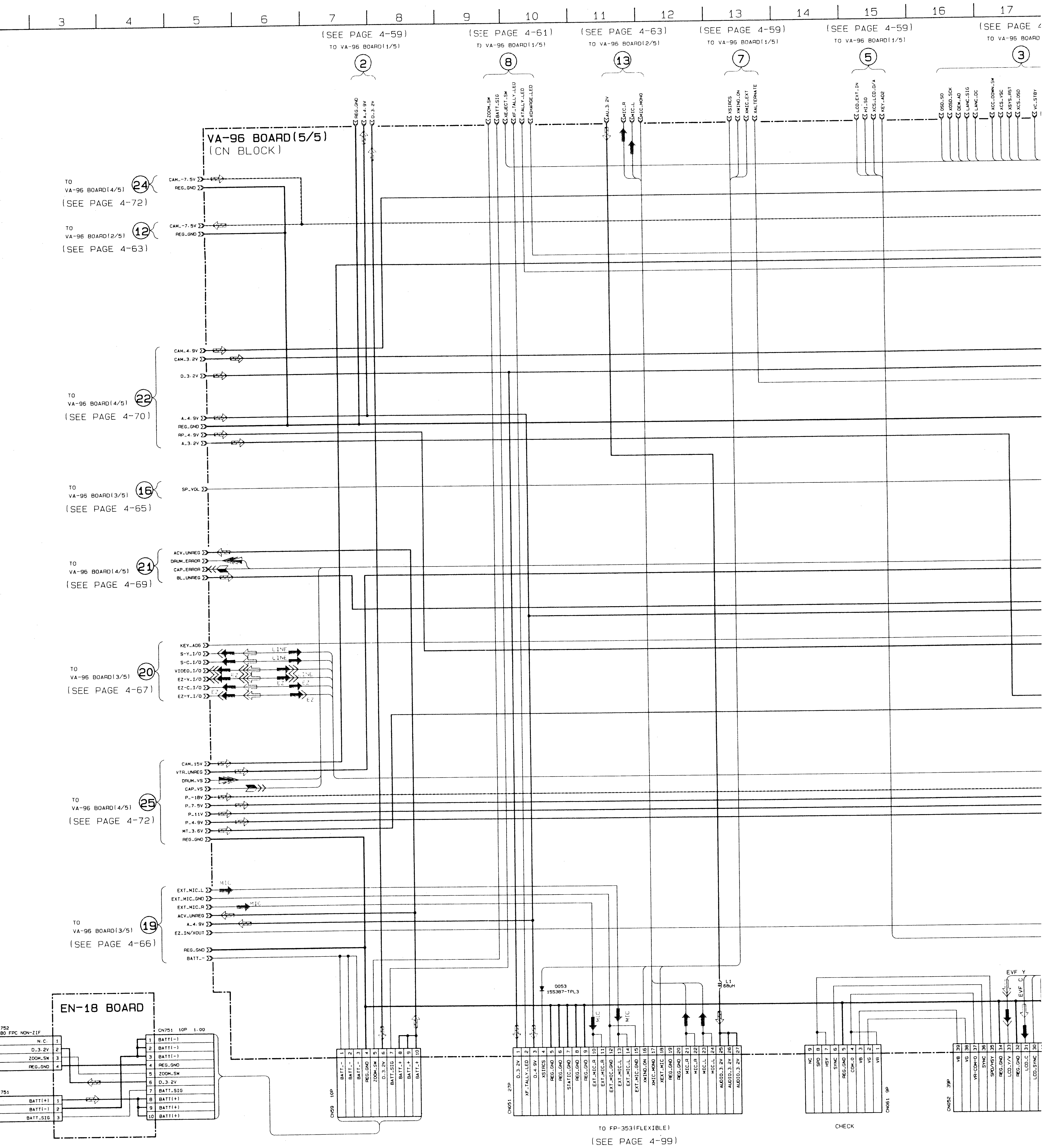
— Ref No. VA-96, EN-18 BOARDS: 3,000 series —


1
2
3
4
5
6
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
VA-96 BOARD(5/
(CN BLOCK)
TO
VA-96 BOARD(4/5)
24
(SEE PAGE 4-72)
CAM_-7.5V
REG_GND
TO
VA-96 BOARD(2/5)
12
(SEE PAGE 4-63)
CAM_-7.5V
REG_GND
TO
VA-96 BOARD(4/5)
22
(SEE PAGE 4-70)
CAM_4.9V
CAM_3.2V
D_3.2V
A_4.9V
REG_GND
RP_4.9V
A_3.2V
TO
VA-96 BOARD(3/5)
16
(SEE PAGE 4-65)
SP_VOL
TO
VA-96 BOARD(4/5)
21
(SEE PAGE 4-69)
ACV_UNREG
DRUM_ERROR
CAP_ERROR
BL_UNREG
TO
VA-96 BOARD(3/5)
20
(SEE PAGE 4-67)
KEY_AD6
S-Y_I/O
S-C_I/O
VIDEO_I/O
EZ-V_I/O
EZ-C_I/O
EZ-Y_I/O
LINE
LINE
EZ
TO
VA-96 BOARD(4/5)
25
(SEE PAGE 4-72)
CAM_15V
VTR_UNREG
DRUM_VS
CAP_VS
P_-18V
P_7.5V
P_11V
P_4.9V
MT_3.6V
REG_GND
TO
VA-96 BOARD(3/5)
19
(SEE PAGE 4-66)
MIC
EXT_MIC_L
EXT_MIC_GND
EXT_MIC_R
ACV_UNREG
A_4.9V
EZ_IN/XOUT
REG_GND
BATT_-
EN-18 BOARD
RV901
T
W
CN752
0.80 FPC NON-ZIF
N.C. 1
D_3.2V 2
ZOOM_SW 3
REG_GND 4
J901
BATTERY
TERMINAL
BT751
BATT(+) 1
BATT(-) 2
BATT_SIG 3
CN751 10P 1.00
1 BATT(-)
2 BATT(-)
3 BATT(-)
4 REG_GND
5 ZOOM_SW
6 D_3.2V
7 BATT_SIG
8 BATT(+)
9 BATT(+)
10 BATT(+)
• SIGNAL
CHR
REC
PB
09

), EN-18 (BATTERY TERMINAL, ZOOM SWITCH) SCHEMATIC DIAGRAMS

ARDS: 3,000 series —

- Refer to page 4-55 for Printed Wiring Board.

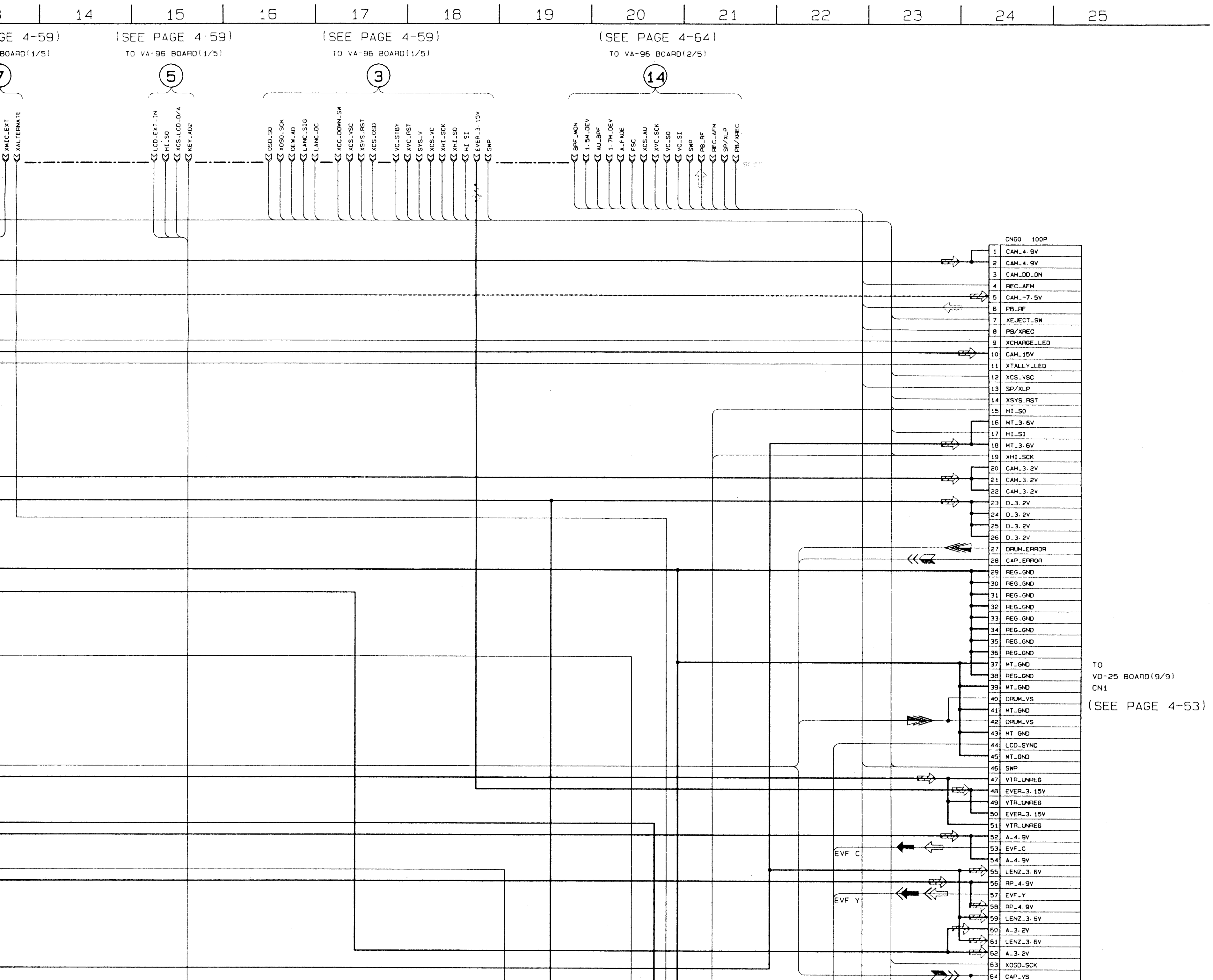

3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
(SEE PAGE 4-59)
TO VA-96 BOARD(1/5)
2
REG_GND
A_4.9V
D_3.2V
(SEE PAGE 4-61)
TO VA-96 BOARD(1/5)
8
ZOOM_SW
BATT_SIG
XEJECT_SW
XF_TALLY_LED
XTALLY_LED
XCHARGE_LED
(SEE PAGE 4-63)
TO VA-96 BOARD(2/5)
13
AU_3.2V
MIC_R
MIC_L
MIC_MONO
(SEE PAGE 4-59)
TO VA-96 BOARD(1/5)
7
XSIRCS
XWIND_ON
XMIC_EXT
XALTERNATE
(SEE PAGE 4-59)
TO VA-96 BOARD(1/5)
5
LCD_EXT_IN
HI_SO
XCS_LCD_D/A
KEY_AD2
(SEE PAGE 4
TO VA-96 BOARD
3
OSD_SO
XOSD_SCK
DEW_AD
LANC_SIG
LANC_DC
XCC_DOWN_SW
XCS_VSC
XSYS_RST
XCS_OSD
VC_STBY
VA-96 BOARD(5/5)
(CN BLOCK)
TO VA-96 BOARD(4/5)
24
(SEE PAGE 4-72)
CAM_-7.5V
REG_GND
TO VA-96 BOARD(2/5)
12
(SEE PAGE 4-63)
CAM_-7.5V
REG_GND
CAM_4.9V
CAM_3.2V
D_3.2V
TO VA-96 BOARD(4/5)
22
(SEE PAGE 4-70)
A_4.9V
REG_GND
RP_4.9V
A_3.2V
TO VA-95 BOARD(3/5)
16
(SEE PAGE 4-65)
SP_VOL
ACV_UNREG
DRUM_ERROR
CAP_ERROR
BL_UNREG
TO VA-96 BOARD(4/5)
21
(SEE PAGE 4-69)
KEY_AD6
S-Y_I/O
S-C_I/O
VIDEO_I/O
EZ-V_I/O
EZ-C_I/O
EZ-Y_I/O
LINE
LINE
EZ
EZ
LINE
EZ
EZ
TO VA-96 BOARD(3/5)
20
(SEE PAGE 4-67)
CAM_15V
VTR_UNREG
DRUM_VS
CAP_VS
P_-18V
P_7.5V
P_11V
P_4.9V
MT_3.6V
REG_GND
TO VA-96 BOARD(4/5)
25
(SEE PAGE 4-72)
EXT_MIC_L
EXT_MIC_GND
EXT_MIC_R
ACV_UNREG
A_4.9V
EZ_IN/XOUT
REG_GND
BATT_-
MIC
MIC
TO VA-96 BOARD(3/5)
19
(SEE PAGE 4-66)
EN-18 BOARD
752
80 FPC NON-ZIF
N.C. 1
D_3.2V 2
ZOOM_SW 3
REG_GND 4
751
BATT(+) 1
BATT(-) 2
BATT_SIG 3
CN751 10P 1.00
1 BATT(-)
2 BATT(-)
3 BATT(-)
4 REG_GND
5 ZOOM_SW
6 D_3.2V
7 BATT_SIG
8 BATT(+)
9 BATT(+)
10 BATT(+)
CN59 10P
1 BATT_-
2 BATT_-
3 BATT_-
4 REG_GND
5 ZOOM_SW
6 D_3.2V
7 BATT_SIG
8 BATT_+
9 BATT_+
10 BATT_+
D053
1SS387-TPL3
MIC
MIC
L1
68uH
CN051 27P
1 D_3.2V
2 XF_TALLY_LED
3 D_4.9V
4 XSIRCS
5 REG_GND
6 REG_GND
7 STATIC_GND
8 REG_GND
9 REG_GND
10 EXT_MIC_R
11 EXT_MIC_R
12 EXT_MIC_GND
13 EXT_MIC_L
14 EXT_MIC_L
15 EXT_MIC_GND
16 XWIND_ON
17 XMIC_MONO
18 XEXT_MIC
19 REG_GND
20 REG_GND
21 MIC_R
22 MIC_R
23 MIC_L
24 MIC_L
25 AUDIO_3.2V
26 AUDIO_3.2V
27 AUDIO_3.2V
TO FP-353(FLEXIBLE)
(SEE PAGE 4-99)
CN061 9P
9 NC
8 SPD
7 HSY
6 SYNC
5 REG_GND
4 COM_O
3 VB
2 VG
1 VR
CHECK
EVF Y
EVF C
CN052 39P
39 VB
38 VG
37 VR-COM-O
36 SYNC
35 SPD/HSY
34 REG_GND
33 LCD_Y/V
32 REG_GND
31 LCD_C
30 LCD_SYNC

• SIGNAL PATH

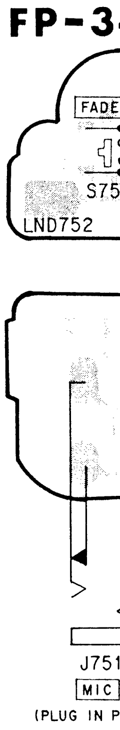
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡›	➡»	➡
PB	⇨	⇨›	⇨»	⇨

• SIGNAL PATH

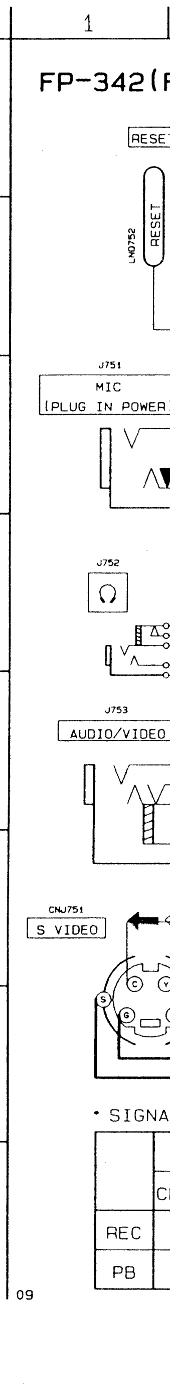
	REC	REC/PB	PB
Drum servo(speed and phase)		⇛	
Capstar servo(speed and phase)		➡»	


14
15
16
17
18
19
20
21
22
23
24
25
(SEE PAGE 4-59)
TO VA-96 BOARD(1/5)
5
(SEE PAGE 4-59)
TO VA-96 BOARD(1/5)
3
(SEE PAGE 4-64)
TO VA-96 BOARD(2/5)
14
XMIC_EXT
ALTERNATE
LCD_EXT_IN
HI_SO
XCS_LCD_D/A
KEY_AD2
OSD_SO
XOSD_SCK
DEW_AD
LANC_SIG
LANC_DC
XCC_DOWN_SW
XCS_VSC
XSYS_RST
XCS_OSD
VC_STBY
XVC_RST
SYS_V
XCS_VC
XHI_SCK
HI_SO
HI_SI
EVER_3.15V
SWP
BPF_MON
1.5M_DEV
AU_BPF
1.7M_DEV
A_FADE
FSC
XCS_AU
XVC_SCK
VC_SO
VC_SI
SWP
PB_RF
REC_AFM
SP/XLP
PB/XREC
CN60 100P
1 CAM_4.9V
2 CAM_4.9V
3 CAM_DD_ON
4 REC_AFM
5 CAM_-7.5V
6 PB_RF
7 XEJECT_SW
8 PB/XREC
9 XCHARGE_LED
10 CAM_15V
11 XTALLY_LED
12 XCS_VSC
13 SP/XLP
14 XSYS_RST
15 HI_SO
16 MT_3.6V
17 HI_SI
18 MT_3.6V
19 XHI_SCK
20 CAM_3.2V
21 CAM_3.2V
22 CAM_3.2V
23 D_3.2V
24 D_3.2V
25 D_3.2V
26 D_3.2V
27 DRUM_ERROR
28 CAP_ERROR
29 REG_GND
30 REG_GND
31 REG_GND
32 REG_GND
33 REG_GND
34 REG_GND
35 REG_GND
36 REG_GND
37 MT_GND
38 REG_GND
39 MT_GND
40 DRUM_VS
41 MT_GND
42 DRUM_VS
43 MT_GND
44 LCD_SYNC
45 MT_GND
46 SWP
47 VTR_UNREG
48 EVER_3.15V
49 VTR_UNREG
50 EVER_3.15V
51 VTR_UNREG
52 A_4.9V
53 EVF_C
54 A_4.9V
55 LENZ_3.6V
56 RP_4.9V
57 EVF_Y
58 RP_4.9V
59 LENZ_3.6V
60 A_3.2V
61 LENZ_3.6V
62 A_3.2V
63 XOSD_SCK
64 CAP_VS
65 VC_SI
66 CAP_VS
67 VC_SO
68 OSD_SO
69 VC_STBY
70 XCS_OSD
71 EZ_Y_I/O
72 SYS_V
73 XVC_RST
74 XCS_VC
75 EZ_V_I/O
76 XVC_SCK
77 XCC_DOWN_SW
78 DEW_AD
79 EZ_C_I/O
80 CG_BL
81 SP_VOL
82 CG_B
83 S-Y_IO
84 CG_G
85 AU_XIN/OUT
86 CG_R
87 S-C_IO
88 CG_VD
89 EZ_IN/XOUT
90 XCS_AU
91 VIDEO_I/O
92 FSC
93 A_FADE
94 LANC_DC
95 1.7M_DEV
96 LANC_SIG
97 AU_BPF
98 LCD_HOLD
99 1.5M_DEV
100 BPF_MON
TO
VD-25 BOARD(9/9)
CN1
(SEE PAGE 4-53)
EVF C
EVF Y
XCS VSC
EZ
LINE
EVF Y
EVF C
D052
1SS387-TPL3
NC
SPD
HSY
SYNC
REG_GND
COM_O
VB
VG
VR
CN061 9P
CHECK
VB
VG
VR-COM-O
SYNC
SPD/HSY
REG_GND
LCD_Y/V
REG_GND
LCD_C
LCD_SYNC
CG_VD
LCD_EXT_IN
XCS_LCD_D/A
HI_SO
XHI_SCK
LCD_HOLD
CG_R
CG_G
CG_BL
KEY_AD2
KEY_ADX
PANEL_4.9V
D_3.2V
PANEL_13/11V
PANEL_7.5V
PANEL_7.5V
PANEL_-15/-18V
REG_GND
W_MODE
BL_UNREG
BL_UNREG
XALTERNATE
UNREG_GND
UNREG_GND
UNREG_GND
UNREG_GND
CN052 39P
TO FP-343(FLEXIBLE)
(SEE PAGE 4-91)
UNREG_GND
23
TO VA-96 BOARD(4/5)
(SEE PAGE 4-72)
EZ_IN/XOUT
AU_XIN/OUT
11
TO VA-96 BOARD(2/5)
(SEE PAGE 4-62)

FP-342 (JAC
— Ref No. FP-34


FP-3
FADE
S75
LND752
J751
MIC
(PLUG IN P

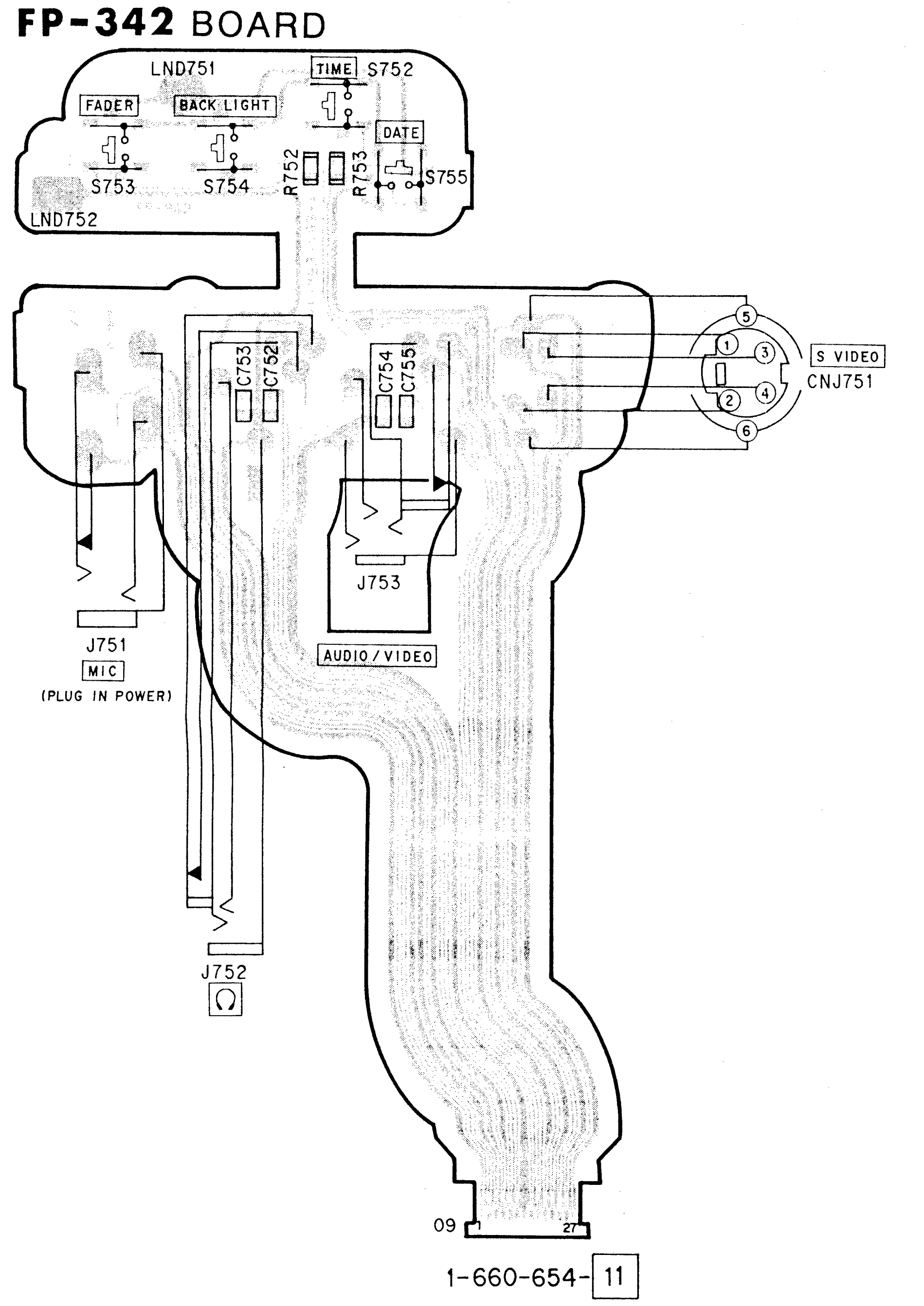
FP-342 (JAC
— Ref No. FP-342


1
FP-342(F
A
B
C
D
E
F
G
H
RESET
LND752
RESET
J751
MIC
(PLUG IN POWER
J752
J753
AUDIO/VIDEO
CNJ751
S VIDEO
· SIGNA
CI
REC
PB
09

CO

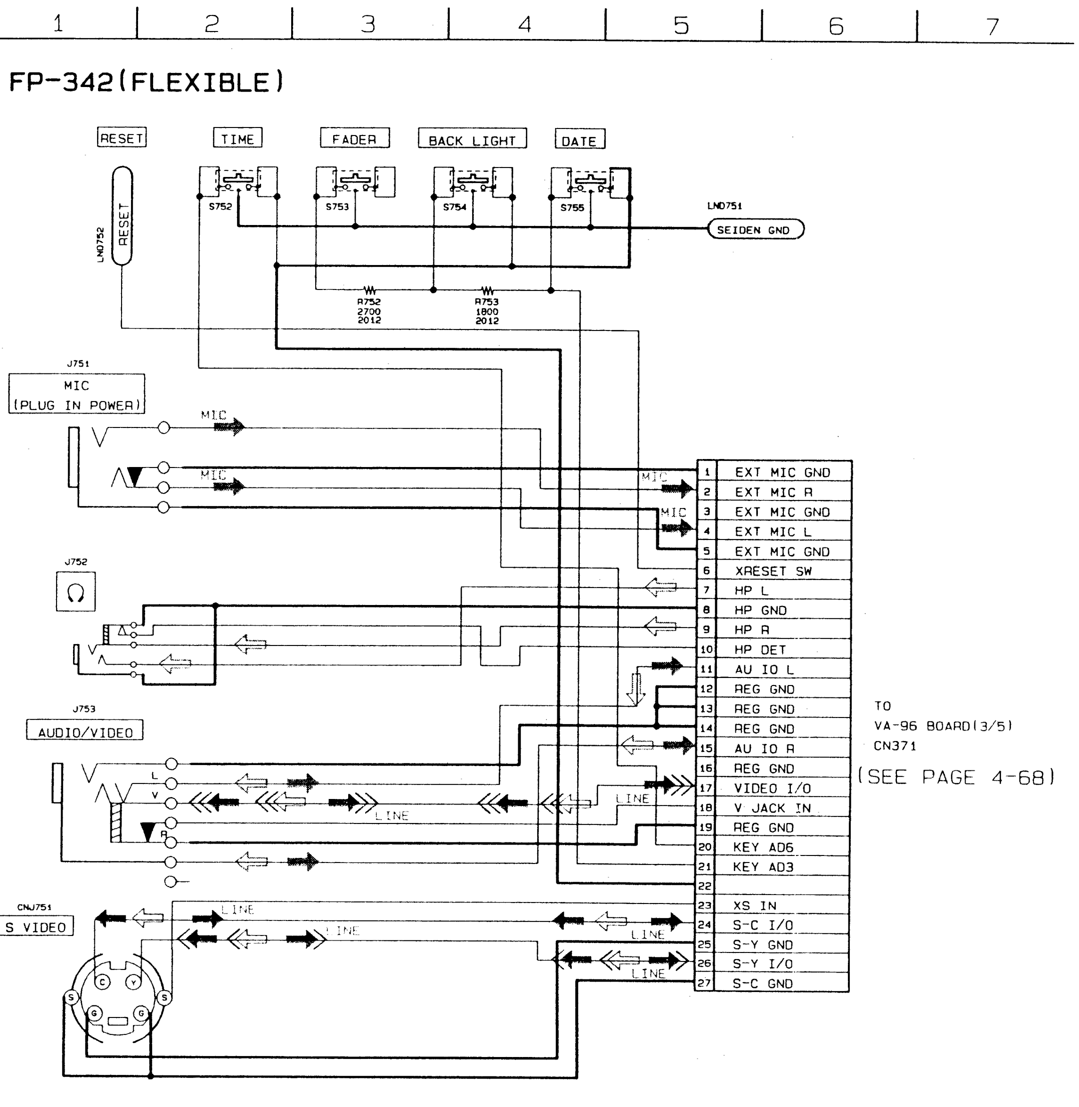
FP-342 (JACK) PRINTED WIRING BOARD

— Ref No. FP-342 BOARD: 4,000 series —


FP-342 BOARD
LND751
TIME
S752
FADER
BACK LIGHT
DATE
S753
S754
R752
R753
S755
LND752
S VIDEO
CNJ751
C753
C752
C754
C755
J753
AUDIO/VIDEO
J751
MIC
(PLUG IN POWER)
J752
09
27
1-660-654-11

P-342 (JACK) SCHEMATIC DIAGRAM

- Ref No. FP-342 BOARD: 4,000 series —

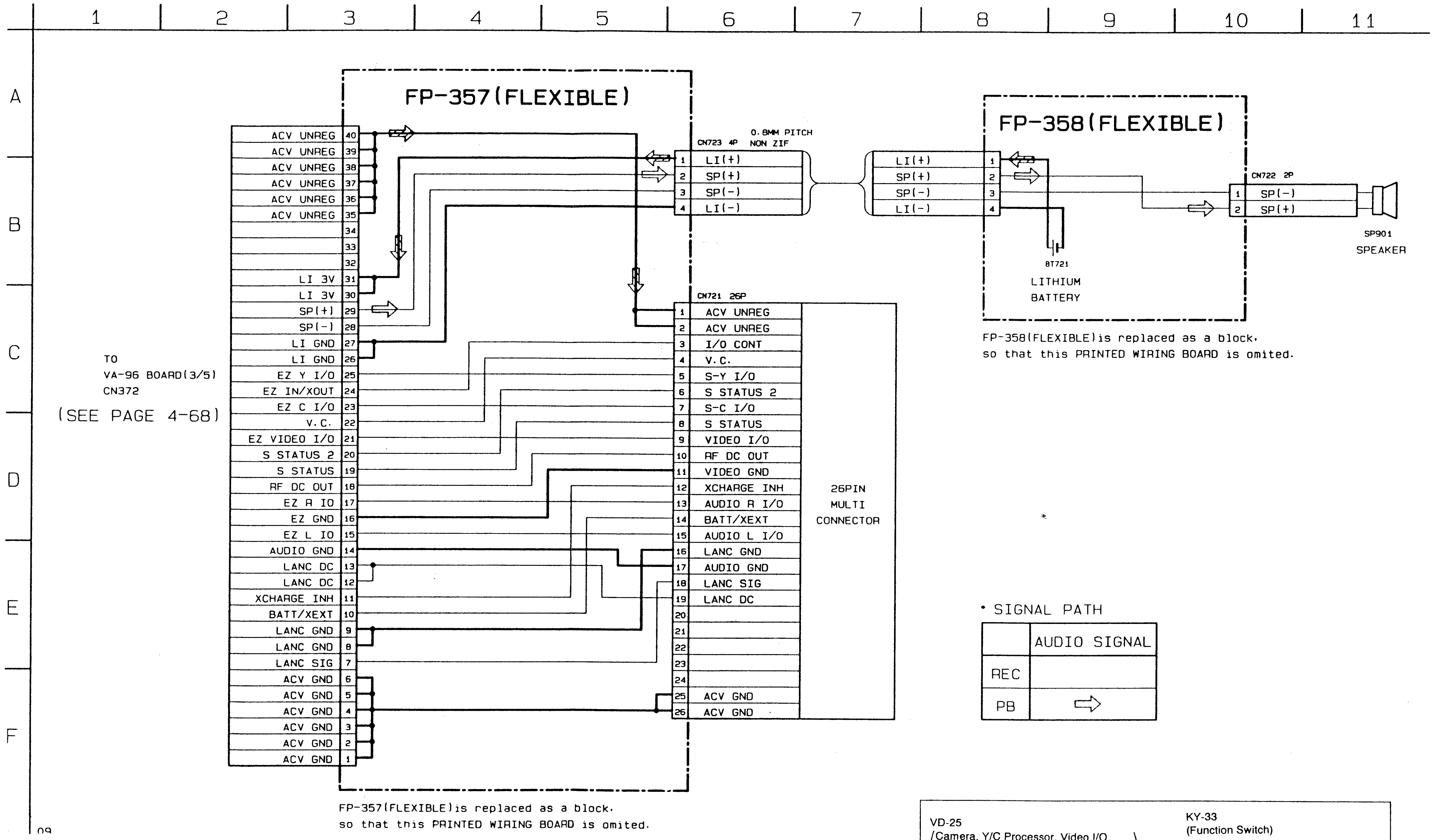

1
2
3
4
5
6
7
FP-342 (FLEXIBLE)
RESET
TIME
FADER
BACK LIGHT
DATE
LND752
RESET
S752
S753
S754
S755
LND751
SEIDEN GND
R752 2700 2012
R753 1800 2012
J751
MIC
(PLUG IN POWER)
MIC
J752
J753
AUDIO/VIDEO
LINE
CNJ751
S VIDEO
1 EXT MIC GND
2 EXT MIC R
3 EXT MIC GND
4 EXT MIC L
5 EXT MIC GND
6 XRESET SW
7 HP L
8 HP GND
9 HP R
10 HP DET
11 AU IO L
12 REG GND
13 REG GND
14 REG GND
15 AU IO R
16 REG GND
17 VIDEO I/O
18 V JACK IN
19 REG GND
20 KEY AD6
21 KEY AD3
22
23 XS IN
24 S-C I/O
25 S-Y GND
26 S-Y I/O
27 S-C GND
TO
VA-96 BOARD (3/5)
CN371
(SEE PAGE 4-68)

• SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡»	➡»	➡
PB	⇨	⇨›	⇨»	⇨

FP-357 (MULTI CONNECTOR), FP-358 (SPEAKER, LITHIUM BATTERY) SCHEMATIC DIAGRAMS

— Ref No. FP-357, FP-358 BOARDS: 4,000 series —

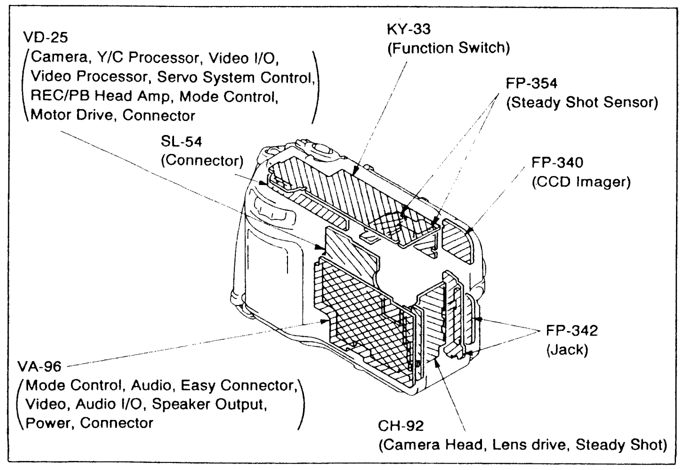

1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
FP-357(FLEXIBLE)
TO
VA-96 BOARD(3/5)
CN372
(SEE PAGE 4-68)
ACV UNREG 40
ACV UNREG 39
ACV UNREG 38
ACV UNREG 37
ACV UNREG 36
ACV UNREG 35
34
33
32
LI 3V 31
LI 3V 30
SP(+) 29
SP(-) 28
LI GND 27
LI GND 26
EZ Y I/O 25
EZ IN/XOUT 24
EZ C I/O 23
V.C. 22
EZ VIDEO I/O 21
S STATUS 2 20
S STATUS 19
RF DC OUT 18
EZ R IO 17
EZ GND 16
EZ L IO 15
AUDIO GND 14
LANC DC 13
LANC DC 12
XCHARGE INH 11
BATT/XEXT 10
LANC GND 9
LANC GND 8
LANC SIG 7
ACV GND 6
ACV GND 5
ACV GND 4
ACV GND 3
ACV GND 2
ACV GND 1
CN723 4P
0.8MM PITCH
NON ZIF
1 LI(+)
2 SP(+)
3 SP(-)
4 LI(-)
CN721 26P
1 ACV UNREG
2 ACV UNREG
3 I/O CONT
4 V.C.
5 S-Y I/O
6 S STATUS 2
7 S-C I/O
8 S STATUS
9 VIDEO I/O
10 RF DC OUT
11 VIDEO GND
12 XCHARGE INH
13 AUDIO R I/O
14 BATT/XEXT
15 AUDIO L I/O
16 LANC GND
17 AUDIO GND
18 LANC SIG
19 LANC DC
20
21
22
23
24
25 ACV GND
26 ACV GND
26PIN
MULTI
CONNECTOR
LI(+)
SP(+)
SP(-)
LI(-)
FP-358(FLEXIBLE)
1
2
3
4
BT721
LITHIUM
BATTERY
CN722 2P
1 SP(-)
2 SP(+)
SP901
SPEAKER
09

FP-358(FLEXIBLE)is replaced as a block.
so that this PRINTED WIRING BOARD is omited.

• SIGNAL PATH

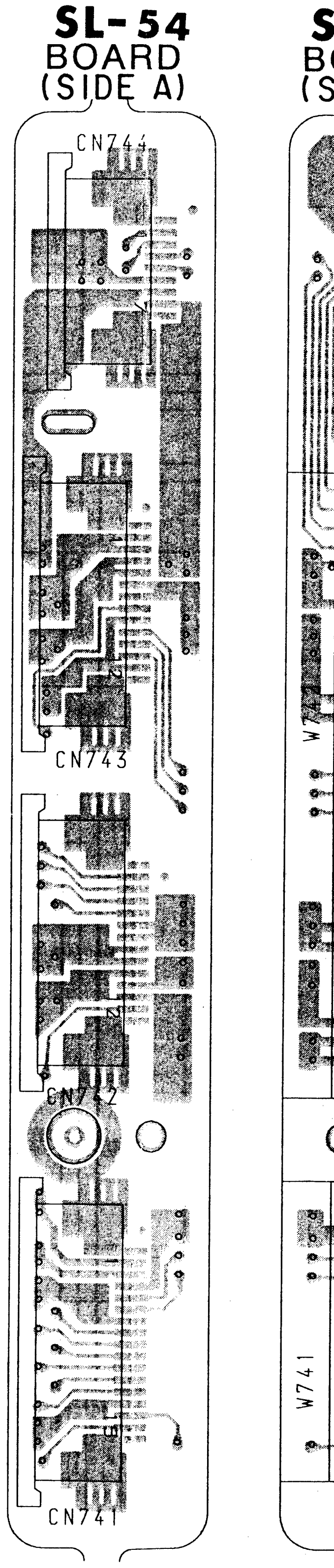
	AUDIO SIGNAL
REC	
PB	⇨

FP-357(FLEXIBLE)is replaced as a block.
so that this PRINTED WIRING BOARD is omited.

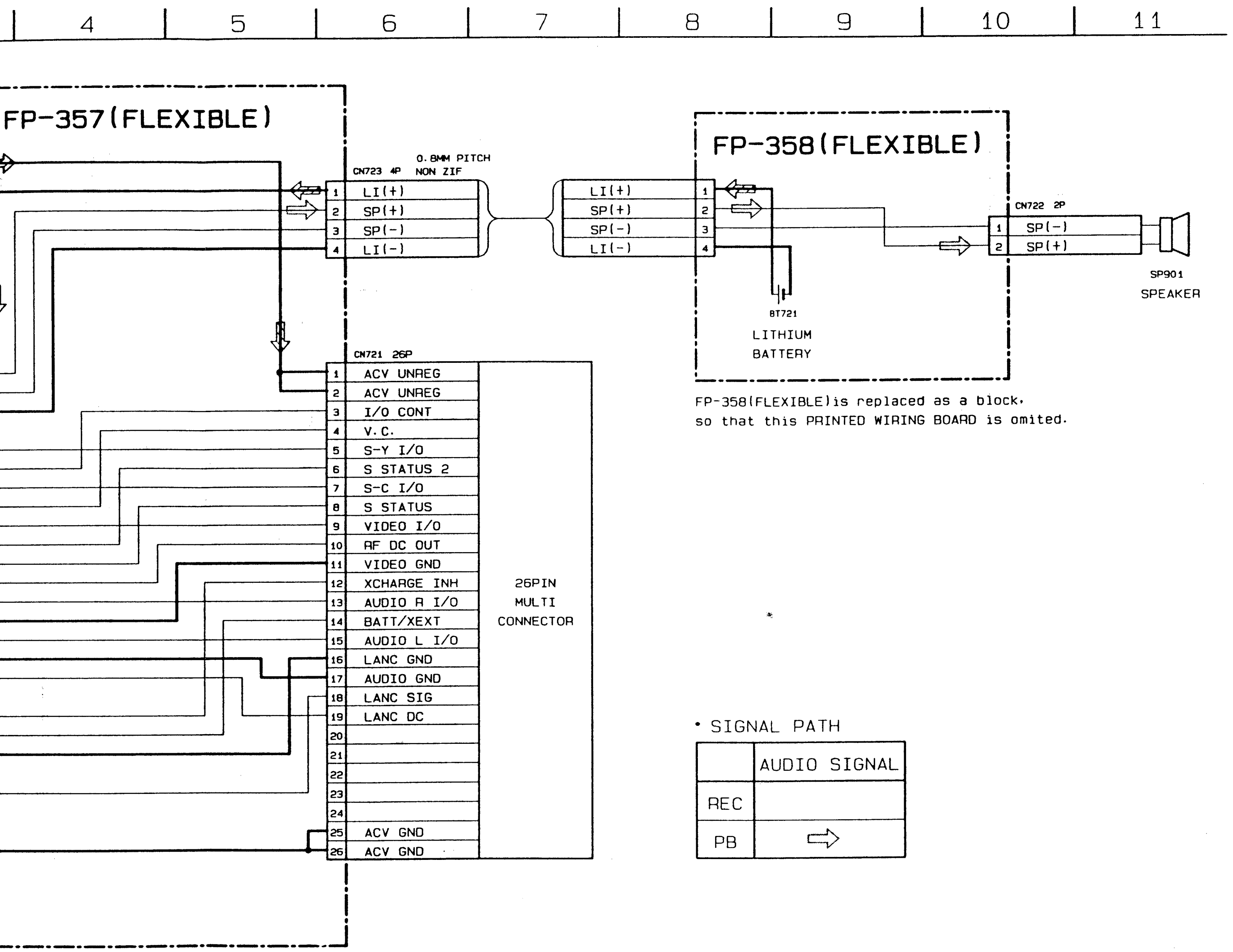

VD-25
(Camera, Y/C Processor, Video I/O, Video Processor, Servo System Control, REC/PB Head Amp, Mode Control, Motor Drive, Connector)
KY-33
(Function Switch)
FP-354
(Steady Shot Sensor)
SL-54
(Connector)
FP-340
(CCD Imager)
FP-342
(Jack)
VA-96
(Mode Control, Audio, Easy Connector, Video, Audio I/O, Speaker Output, Power, Connector)
CH-92
(Camera Head, Lens drive, Steady Shot)

SL-54 (CONNECTOR), FP-316

— Ref No. SL-54, FP-316 BOARDS: 5,00


SL-54
BOARD
(SIDE A)
CN744
CN743
CN742
W741
CN741
09

AKER, LITHIUM BATTERY) SCHEMATIC DIAGRAMS

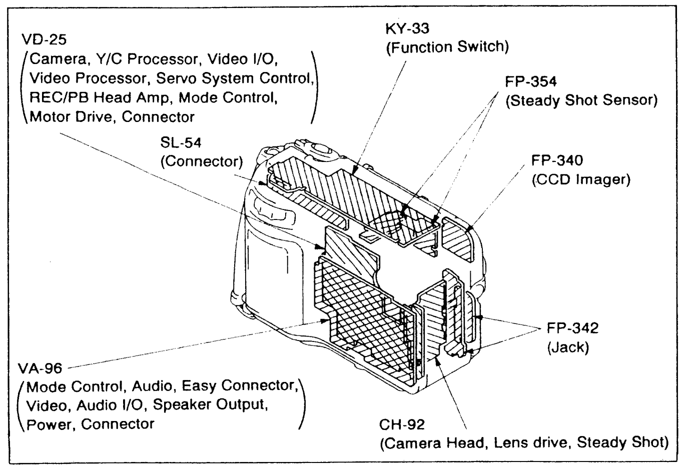

4
5
6
7
8
9
10
11
FP-357(FLEXIBLE)
CN723 4P
0.8MM PITCH
NON ZIF
1 LI(+)
2 SP(+)
3 SP(-)
4 LI(-)
LI(+)
SP(+)
SP(-)
LI(-)
FP-358(FLEXIBLE)
1
2
3
4
CN722 2P
1 SP(-)
2 SP(+)
SP901
SPEAKER
BT721
LITHIUM
BATTERY
CN721 26P
1 ACV UNREG
2 ACV UNREG
3 I/O CONT
4 V.C.
5 S-Y I/O
6 S STATUS 2
7 S-C I/O
8 S STATUS
9 VIDEO I/O
10 RF DC OUT
11 VIDEO GND
12 XCHARGE INH
13 AUDIO R I/O
14 BATT/XEXT
15 AUDIO L I/O
16 LANC GND
17 AUDIO GND
18 LANC SIG
19 LANC DC
20
21
22
23
24
25 ACV GND
26 ACV GND
25PIN
MULTI
CONNECTOR

FP-358(FLEXIBLE)is replaced as a block, so that this PRINTED WIRING BOARD is omited.

• SIGNAL PATH

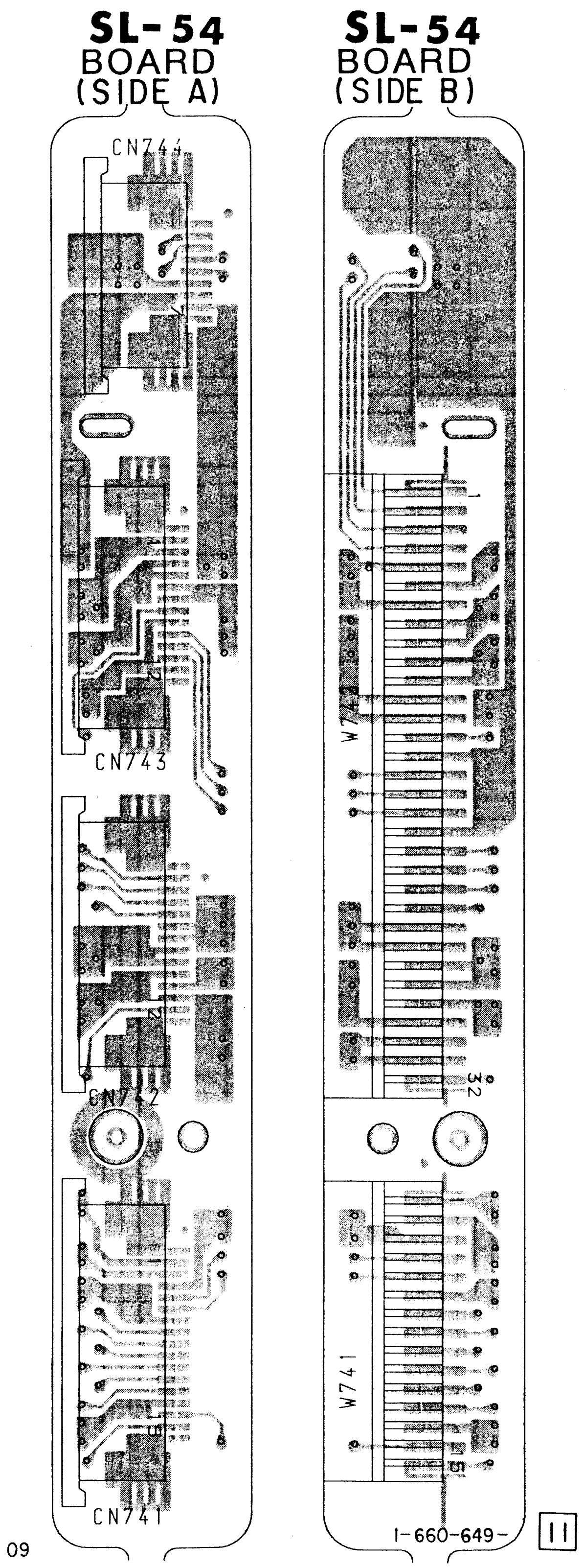
	AUDIO SIGNAL
REC	
PB	⇨

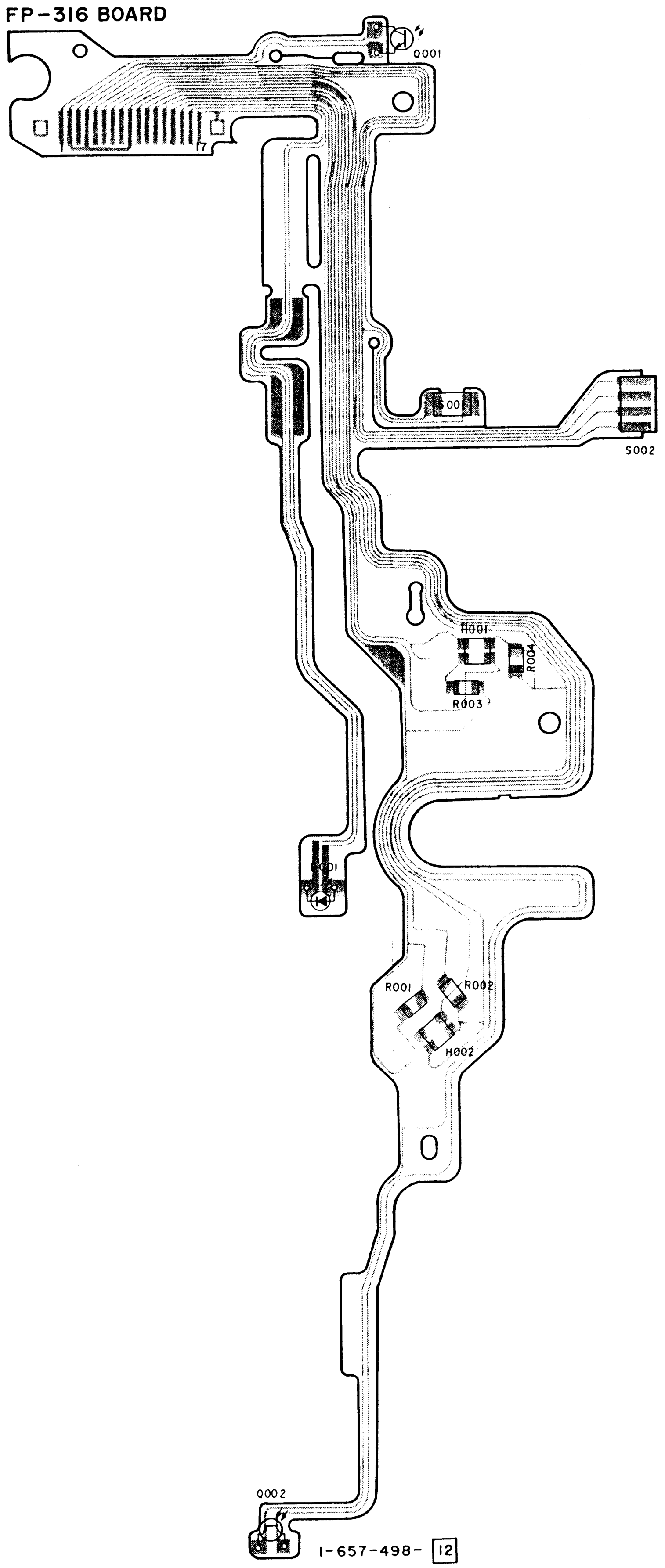
LEXIBLE)is replaced as a block, this PRINTED WIRING BOARD is omited.

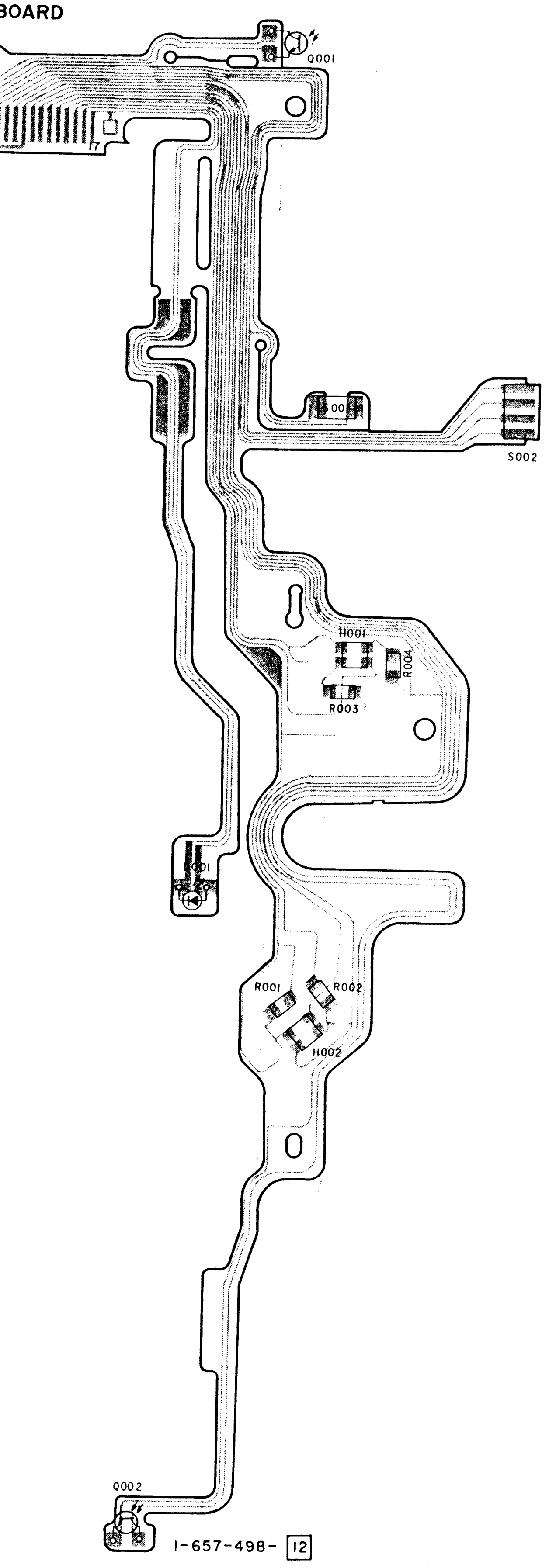

VD-25
(Camera, Y/C Processor, Video I/O, Video Processor, Servo System Control, REC/PB Head Amp, Mode Control, Motor Drive, Connector)
KY-33
(Function Switch)
FP-354
(Steady Shot Sensor)
SL-54
(Connector)
FP-340
(CCD Imager)
FP-342
(Jack)
VA-96
(Mode Control, Audio, Easy Connector, Video, Audio I/O, Speaker Output, Power, Connector)
CH-92
(Camera Head, Lens drive, Steady Shot)

SL-54 (CONNECTOR), FP-316 (TAPE SENSOR) PRINTED WIRING BOARDS

— Ref No. SL-54, FP-316 BOARDS: 5,000 series —


SL-54
BOARD
(SIDE A)
CN744
CN743
CN742
CN741
09
SL-54
BOARD
(SIDE B)
W
32
W741
1-660-649- 11


FP-316 BOARD
Q001
S001
S002
H001
R004
R003
D001
R001
R002
H002
Q002
1-657-498- 12

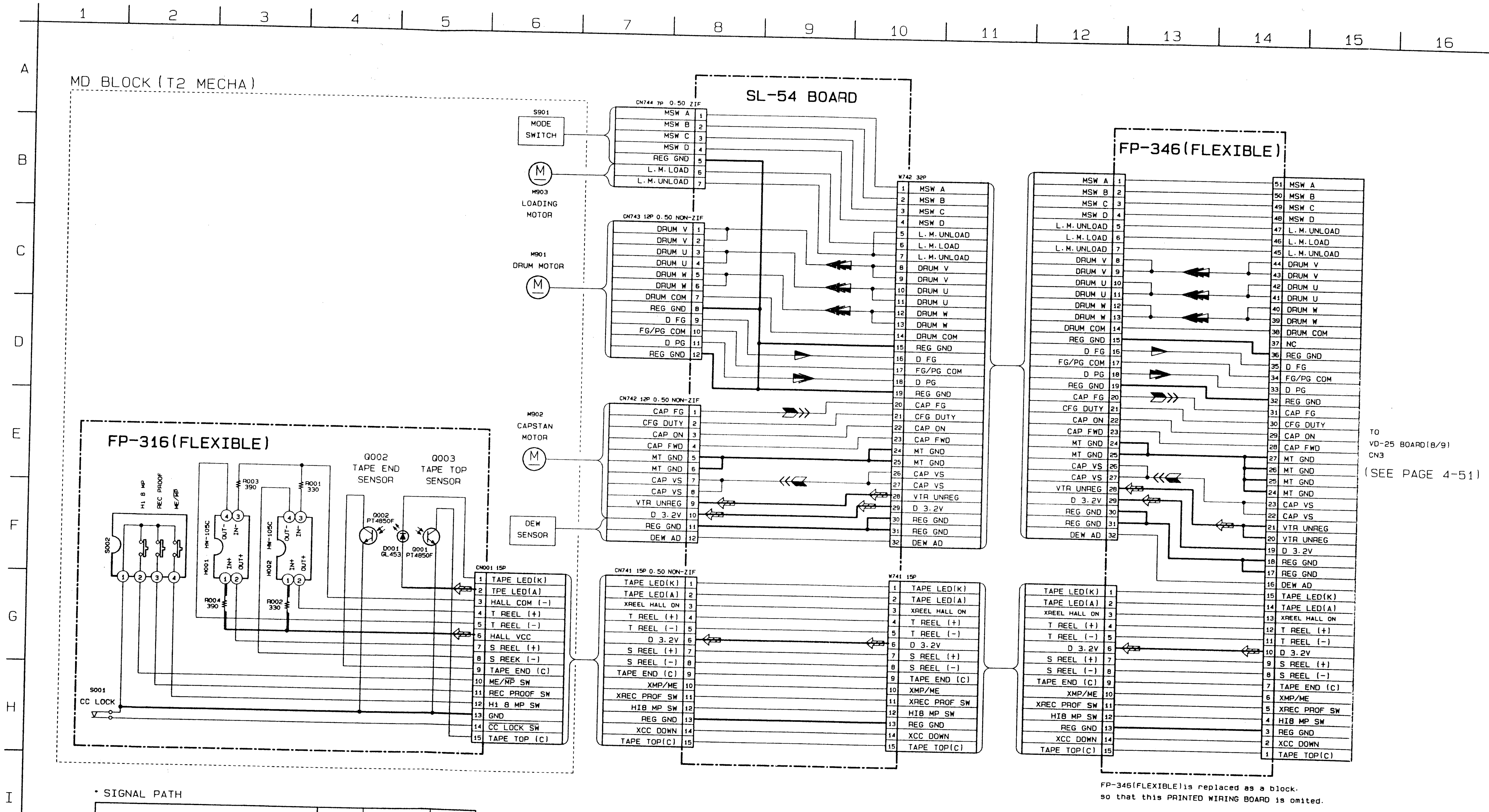


BOARD
Q001
S002
H001
R004
R003
D001
R001
R002
H002
Q002
1-657-498- 12

SOR

SL-54 (CONNECTOR), FP-316 (TAPE SENSOR), FP-346 (CONNECTOR) SCHEMATIC DIAGRAMS

— Ref No. SL-54, FP-316, FP-346 BOARDS: 5,000 series —



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
A B C D E F G H I J
MD BLOCK (T2 MECHA)
SL-54 BOARD
FP-346(FLEXIBLE)
FP-316(FLEXIBLE)
S901 MODE SWITCH
M903 LOADING MOTOR
M901 DRUM MOTOR
M902 CAPSTAN MOTOR
DEW SENSOR
CN744 7P 0.50 ZIF
MSW A, MSW B, MSW C, MSW D, REG GND, L.M.LOAD, L.M.UNLOAD
CN743 12P 0.50 NON-ZIF
DRUM V, DRUM V, DRUM U, DRUM U, DRUM W, DRUM W, DRUM COM, REG GND, D FG, FG/PG COM, D PG, REG GND
CN742 12P 0.50 NON-ZIF
CAP FG, CFG DUTY, CAP ON, CAP FWD, MT GND, MT GND, CAP VS, CAP VS, VTR UNREG, D 3.2V, REG GND, DEW AD
CN741 15P 0.50 NON-ZIF
W742 32P
MSW A, MSW B, MSW C, MSW D, L.M.UNLOAD, L.M.LOAD, L.M.UNLOAD, DRUM V, DRUM V, DRUM U, DRUM U, DRUM W, DRUM W, DRUM COM, REG GND, D FG, FG/PG COM, D PG, REG GND, CAP FG, CFG DUTY, CAP ON, CAP FWD, MT GND, MT GND, CAP VS, CAP VS, VTR UNREG, D 3.2V, REG GND, REG GND, DEW AD
W741 15P
CN001 15P
TAPE LED(K), TAPE LED(A), HALL COM (-), T REEL (+), T REEL (-), HALL VCC, S REEL (+), S REEL (-), TAPE END (C), ME/MP SW, REC PROOF SW, Hi 8 MP SW, GND, CC LOCK SW, TAPE TOP (C)
TAPE LED(K), TAPE LED(A), XREEL HALL ON, T REEL (+), T REEL (-), D 3.2V, S REEL (+), S REEL (-), TAPE END (C), XMP/ME, XREC PROF SW, HI8 MP SW, REG GND, XCC DOWN, TAPE TOP(C)
NC
Q002 TAPE END SENSOR
Q003 TAPE TOP SENSOR
Q002 PT4850F
D001 GL453
Q001 PT4850F
H001 HW-105C
H002 HW-105C
R003 390
R001 330
R004 390
R002 330
OUT- IN- IN+ OUT+
Hi 8 MP
REC PROOF
ME/MP
S002
S001 CC LOCK
TO VD-25 BOARD(8/9) CN3
(SEE PAGE 4-51)
09

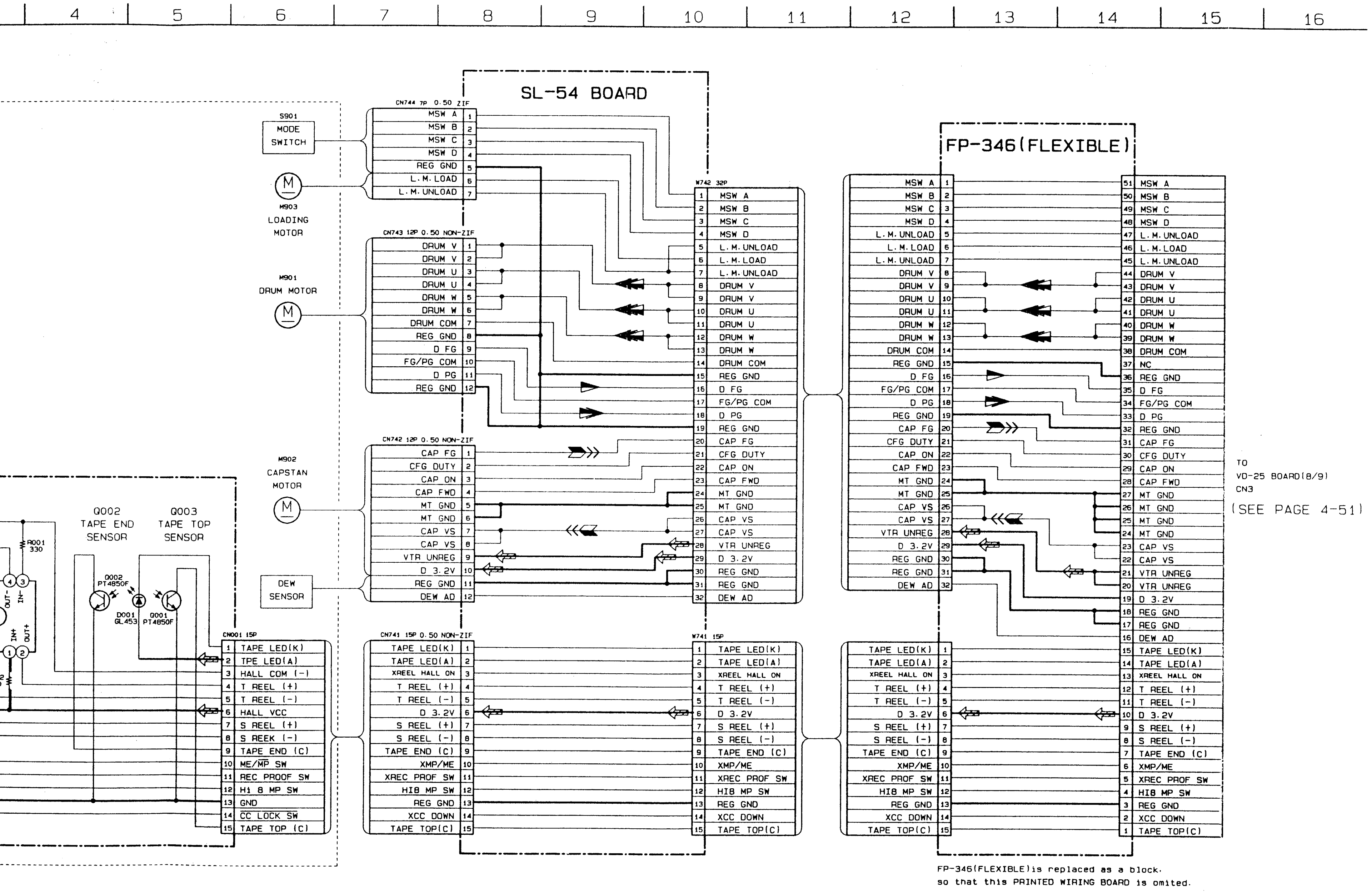
FP-346(FLEXIBLE) is replaced as a block, so that this PRINTED WIRING BOARD is omited.

• SIGNAL PATH

	REC	REC/PB	PB
Drum speed servo		▷	
Drum phase servo		➨	
Drum servo (speed and phase)		⇛	
Capstan servo (speed and phase)		➢》	

APE SENSOR), FP-346 (CONNECTOR) SCHEMATIC DIAGRAMS

5,000 series —


4
5
6
7
8
9
10
11
12
13
14
15
16
SL-54 BOARD
FP-346(FLEXIBLE)
S901 MODE SWITCH
M903 LOADING MOTOR
M901 DRUM MOTOR
M902 CAPSTAN MOTOR
DEW SENSOR
Q002 TAPE END SENSOR
Q003 TAPE TOP SENSOR
Q002 PT4850F
D001 GL453
Q001 PT4850F
R001 330
OUT-
IN-
IN+
OUT+
CN744 7P 0.50 ZIF
MSW A
MSW B
MSW C
MSW D
REG GND
L.M.LOAD
L.M.UNLOAD
CN743 12P 0.50 NON-ZIF
DRUM V
DRUM V
DRUM U
DRUM U
DRUM W
DRUM W
DRUM COM
REG GND
D FG
FG/PG COM
D PG
REG GND
CN742 12P 0.50 NON-ZIF
CAP FG
CFG DUTY
CAP ON
CAP FWD
MT GND
MT GND
CAP VS
CAP VS
VTR UNREG
D 3.2V
REG GND
DEW AD
CN741 15P 0.50 NON-ZIF
TAPE LED(K)
TAPE LED(A)
XREEL HALL ON
T REEL (+)
T REEL (-)
D 3.2V
S REEL (+)
S REEL (-)
TAPE END (C)
XMP/ME
XREC PROF SW
HI8 MP SW
REG GND
XCC DOWN
TAPE TOP(C)
W742 32P
MSW A
MSW B
MSW C
MSW D
L.M.UNLOAD
L.M.LOAD
L.M.UNLOAD
DRUM V
DRUM V
DRUM U
DRUM U
DRUM W
DRUM W
DRUM COM
REG GND
D FG
FG/PG COM
D PG
REG GND
CAP FG
CFG DUTY
CAP ON
CAP FWD
MT GND
MT GND
CAP VS
CAP VS
VTR UNREG
D 3.2V
REG GND
REG GND
DEW AD
W741 15P
TAPE LED(K)
TAPE LED(A)
XREEL HALL ON
T REEL (+)
T REEL (-)
D 3.2V
S REEL (+)
S REEL (-)
TAPE END (C)
XMP/ME
XREC PROF SW
HI8 MP SW
REG GND
XCC DOWN
TAPE TOP(C)
CN001 15P
TAPE LED(K)
TPE LED(A)
HALL COM (-)
T REEL (+)
T REEL (-)
HALL VCC
S REEL (+)
S REEK (-)
TAPE END (C)
ME/MP SW
REC PROOF SW
HI 8 MP SW
GND
CC LOCK SW
TAPE TOP (C)
MSW A
MSW B
MSW C
MSW D
L.M.UNLOAD
L.M.LOAD
L.M.UNLOAD
DRUM V
DRUM V
DRUM U
DRUM U
DRUM W
DRUM W
DRUM COM
REG GND
D FG
FG/PG COM
D PG
REG GND
CAP FG
CFG DUTY
CAP ON
CAP FWD
MT GND
MT GND
CAP VS
CAP VS
VTR UNREG
D 3.2V
REG GND
REG GND
DEW AD
MSW A
MSW B
MSW C
MSW D
L.M.UNLOAD
L.M.LOAD
L.M.UNLOAD
DRUM V
DRUM V
DRUM U
DRUM U
DRUM W
DRUM W
DRUM COM
NC
REG GND
D FG
FG/PG COM
D PG
REG GND
CAP FG
CFG DUTY
CAP ON
CAP FWD
MT GND
MT GND
MT GND
MT GND
CAP VS
CAP VS
VTR UNREG
VTR UNREG
D 3.2V
REG GND
REG GND
DEW AD
TAPE LED(K)
TAPE LED(A)
XREEL HALL ON
T REEL (+)
T REEL (-)
D 3.2V
S REEL (+)
S REEL (-)
TAPE END (C)
XMP/ME
XREC PROF SW
HI8 MP SW
REG GND
XCC DOWN
TAPE TOP(C)

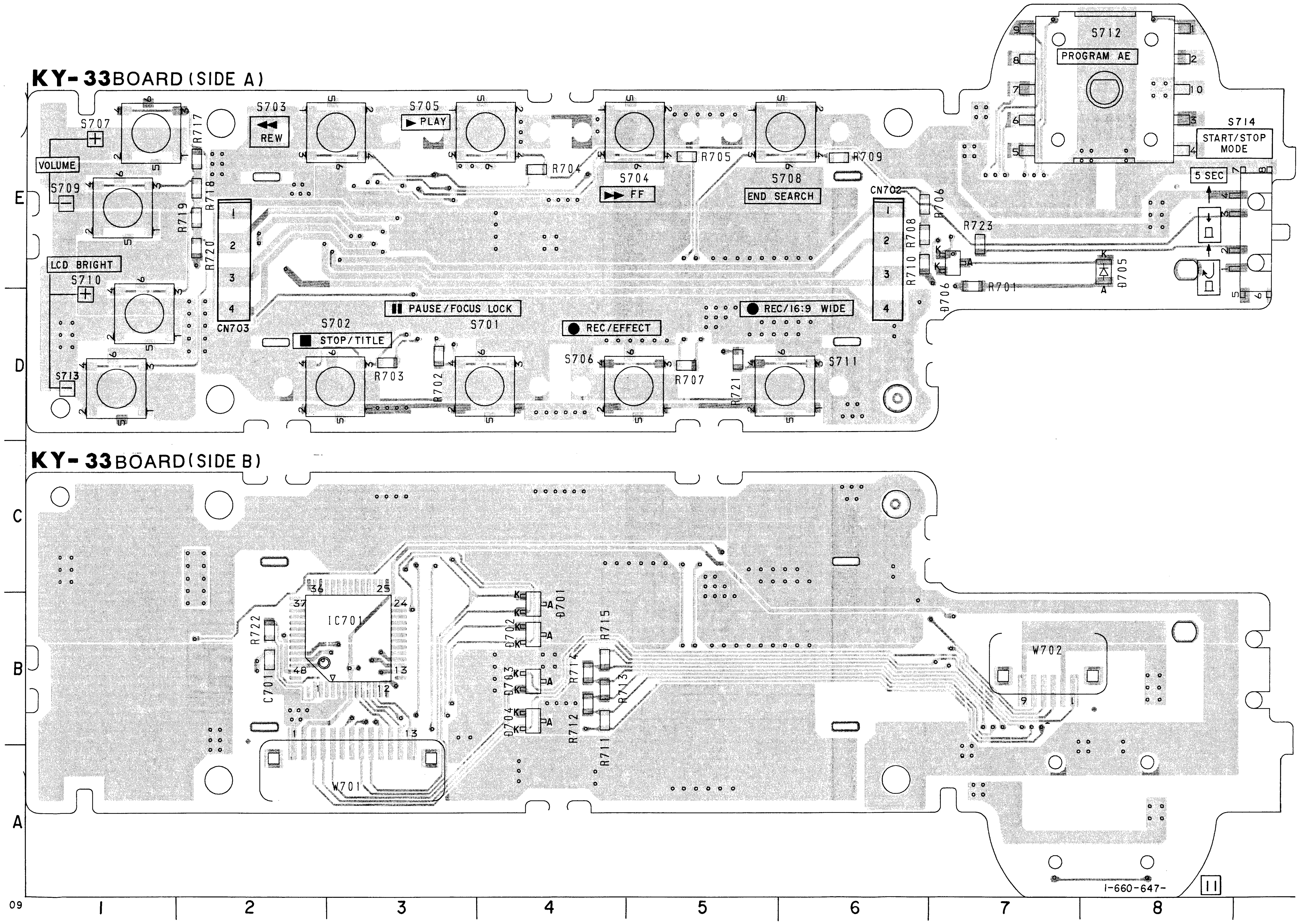
TO VD-25 BOARD(8/9) CN3 (SEE PAGE 4-51)

FP-346(FLEXIBLE)is replaced as a block.
so that this PRINTED WIRING BOARD is omited.

	REC	REC/PB	PB
		▷	
		➡	
se)		⇛	
hase)		⇛»	

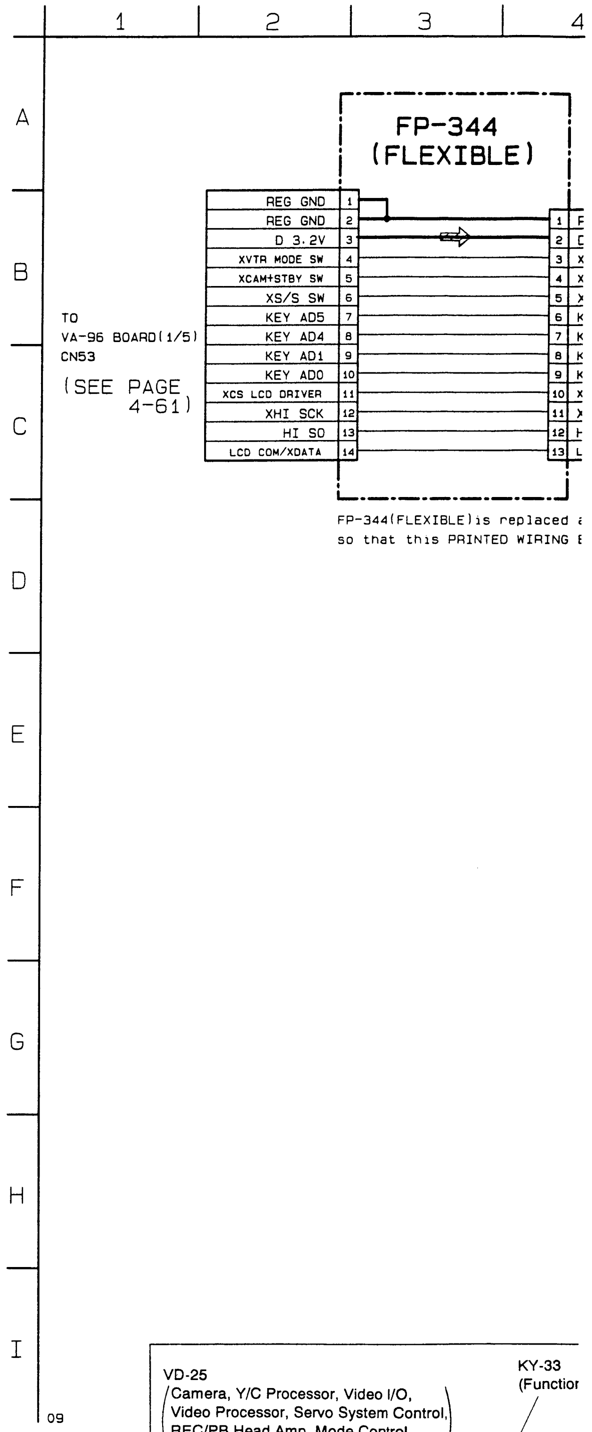
KY-33 (FUNCTION SWITCH) PRINTED WIRING BOARD

— Ref No. KY-33 BOARD: 6,000 series —

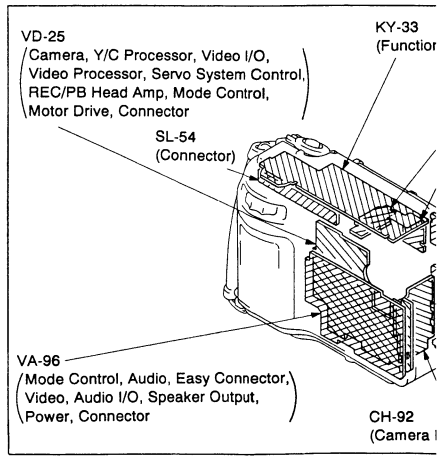

KY-33 BOARD (SIDE A)
S703
REW
S705
PLAY
S712
PROGRAM AE
S714
START/STOP MODE
5 SEC
S707
VOLUME
S709
R717
R718
R719
R720
R704
R705
R709
S704
FF
S708
END SEARCH
CN702
R706
R708
R710
R723
D705
D706
R701
LCD BRIGHT
S710
CN703
PAUSE/FOCUS LOCK
S702
S701
STOP/TITLE
REC/EFFECT
REC/16:9 WIDE
S706
S711
R703
R702
R707
R721
S713
KY-33 BOARD (SIDE B)
IC701
R722
C701
W701
D701
D702
D703
D704
R715
R714
R713
R712
R711
W702
1-660-647-
11
09
1
2
3
4
5
6
7
8
A
B
C
D
E

KY-33 (FUNCTION SWITCH), FP-344 (CONNEC

— Ref No. KY-33, FP-344, FP-348 BOARDS: 6,000 series —

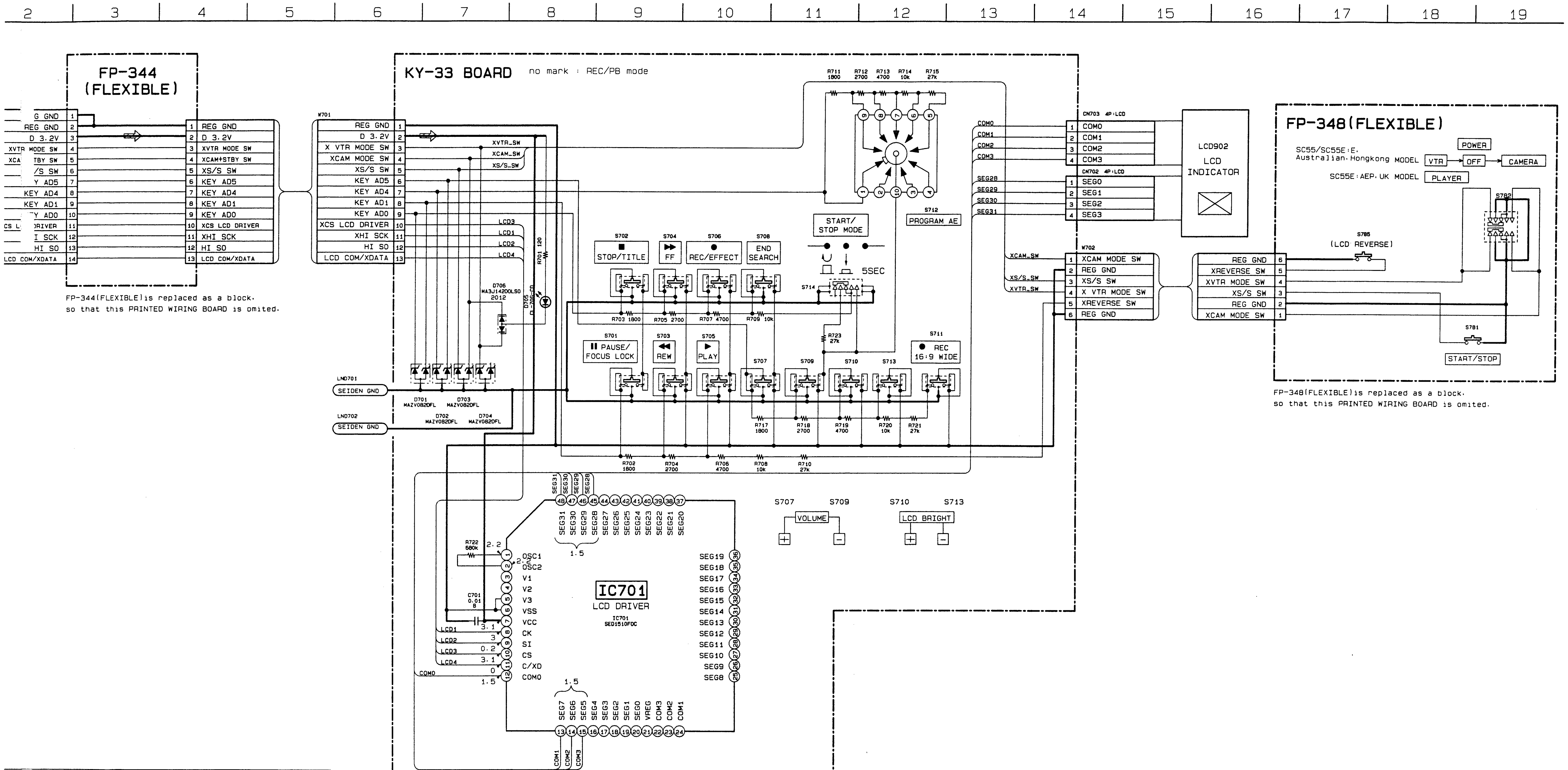

1
2
3
4
A
B
C
D
E
F
G
H
I
09
FP-344
(FLEXIBLE)
TO
VA-96 BOARD (1/5)
CN53
(SEE PAGE 4-61)
REG GND 1
REG GND 2
D 3.2V 3
XVTR MODE SW 4
XCAM+STBY SW 5
XS/S SW 6
KEY AD5 7
KEY AD4 8
KEY AD1 9
KEY AD0 10
XCS LCD DRIVER 11
XHI SCK 12
HI SO 13
LCD COM/XDATA 14

FP-344(FLEXIBLE)is replaced
so that this PRINTED WIRING


VD-25
(Camera, Y/C Processor, Video I/O, Video Processor, Servo System Control, REC/PB Head Amp, Mode Control, Motor Drive, Connector)
KY-33
(Functior
SL-54
(Connector)
VA-96
(Mode Control, Audio, Easy Connector, Video, Audio I/O, Speaker Output, Power, Connector)
CH-92
(Camera I

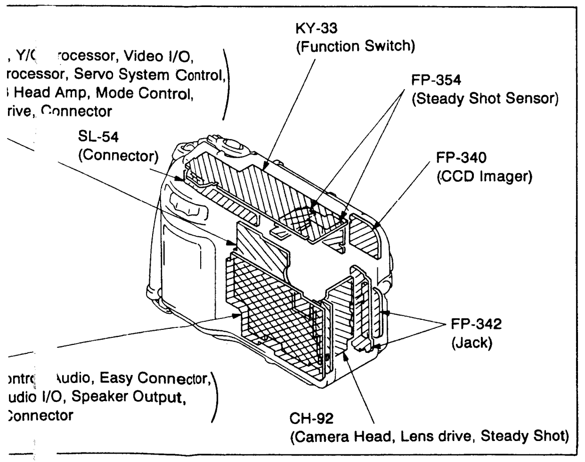
S''ITCH), FP-344 (CONNECTOR), FP-348 (POWER SWITCH) SCHEMATIC DIAGRAM

I, F 348 BOARDS: 6,000 series —


2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
FP-344
(FLEXIBLE)
G GND
REG GND
D 3.2V
XVTR MODE SW
XCA TBY SW
/S SW
Y AD5
KEY AD4
KEY AD1
Y AD0
CS L DRIVER
I SCK
HI SO
LCD COM/XDATA
REG GND
D 3.2V
XVTR MODE SW
XCAM+STBY SW
XS/S SW
KEY AD5
KEY AD4
KEY AD1
KEY AD0
XCS LCD DRIVER
XHI SCK
HI SO
LCD COM/XDATA
W701
KY-33 BOARD
no mark : REC/PB mode
REG GND
D 3.2V
X VTR MODE SW
XCAM MODE SW
XS/S SW
KEY AD5
KEY AD4
KEY AD1
KEY AD0
XCS LCD DRIVER
XHI SCK
HI SO
LCD COM/XDATA
XVTR_SW
XCAM_SW
XS/S_SW
LCD3
LCD1
LCD2
LCD4
R701 120
D706
MA3J142D0LS0
2012
D705
CL-706G-CD
LND701
SEIDEN GND
LND702
SEIDEN GND
D701
MAZV082DFL
D702
MAZV082DFL
D703
MAZV082DFL
D704
MAZV082DFL
R711 1800
R712 2700
R713 4700
R714 10k
R715 27k
S712
PROGRAM AE
START/
STOP MODE
5SEC
S714
S702
STOP/TITLE
S704
FF
S706
REC/EFFECT
S708
END
SEARCH
R703 1800
R705 2700
R707 4700
R709 10k
R723
27k
S701
PAUSE/
FOCUS LOCK
S703
REW
S705
PLAY
S707
S709
S710
S713
S711
REC
16:9 WIDE
R717 1800
R718 2700
R719 4700
R720 10k
R721 27k
R702 1800
R704 2700
R706 4700
R708 10k
R710 27k
COM0
COM1
COM2
COM3
SEG28
SEG29
SEG30
SEG31
CN703 4P:LCD
COM0
COM1
COM2
COM3
CN702 4P:LCD
SEG0
SEG1
SEG2
SEG3
LCD902
LCD
INDICATOR
XCAM_SW
XS/S_SW
XVTR_SW
W702
XCAM MODE SW
REG GND
XS/S SW
X VTR MODE SW
XREVERSE SW
REG GND
FP-348(FLEXIBLE)
SC55/SC55E:E.
Australian.Hongkong MODEL
SC55E:AEP.UK MODEL
POWER
VTR
OFF
CAMERA
PLAYER
S782
S785
(LCD REVERSE)
REG GND
XREVERSE SW
XVTR MODE SW
XS/S SW
REG GND
XCAM MODE SW
S781
START/STOP
S707
S709
VOLUME
S710
S713
LCD BRIGHT
R722
680k
2.2
C701
0.01
B
3.1
3
0.2
3.1
0
1.5
LCD1
LCD2
LCD3
LCD4
COM0
IC701
LCD DRIVER
IC701
SED1510F0C
OSC1
OSC2
V1
V2
V3
VSS
VCC
CK
SI
CS
C/XD
COM0
SEG31
SEG30
SEG29
SEG28
SEG27
SEG26
SEG25
SEG24
SEG23
SEG22
SEG21
SEG20
1.5
SEG19
SEG18
SEG17
SEG16
SEG15
SEG14
SEG13
SEG12
SEG11
SEG10
SEG9
SEG8
1.5
SEG7
SEG6
SEG5
SEG4
SEG3
SEG2
SEG1
SEG0
VREG
COM3
COM2
COM1
COM1
COM2
COM3

FP-344(FLEXIBLE)is replaced as a block.
so that this PRINTED WIRING BOARD is omited.

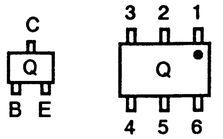
FP-348(FLEXIBLE)is replaced as a block.
so that this PRINTED WIRING BOARD is omited.


KY-33
(Function Switch)
, Y/C rocessor, Video I/O,
rocessor, Servo System Control,
Head Amp, Mode Control,
rive, Connector
SL-54
(Connector)
FP-354
(Steady Shot Sensor)
FP-340
(CCD Imager)
FP-342
(Jack)
ontr Audio, Easy Connector,
udio I/O, Speaker Output,
Connector
CH-92
(Camera Head, Lens drive, Steady Shot)

PD-64 (RGB DECODER, LCD CONTROL, DC/DC CONVERTER), FP-345 (FUNCTION SWITCH) PRINTED WIRING BOARDS

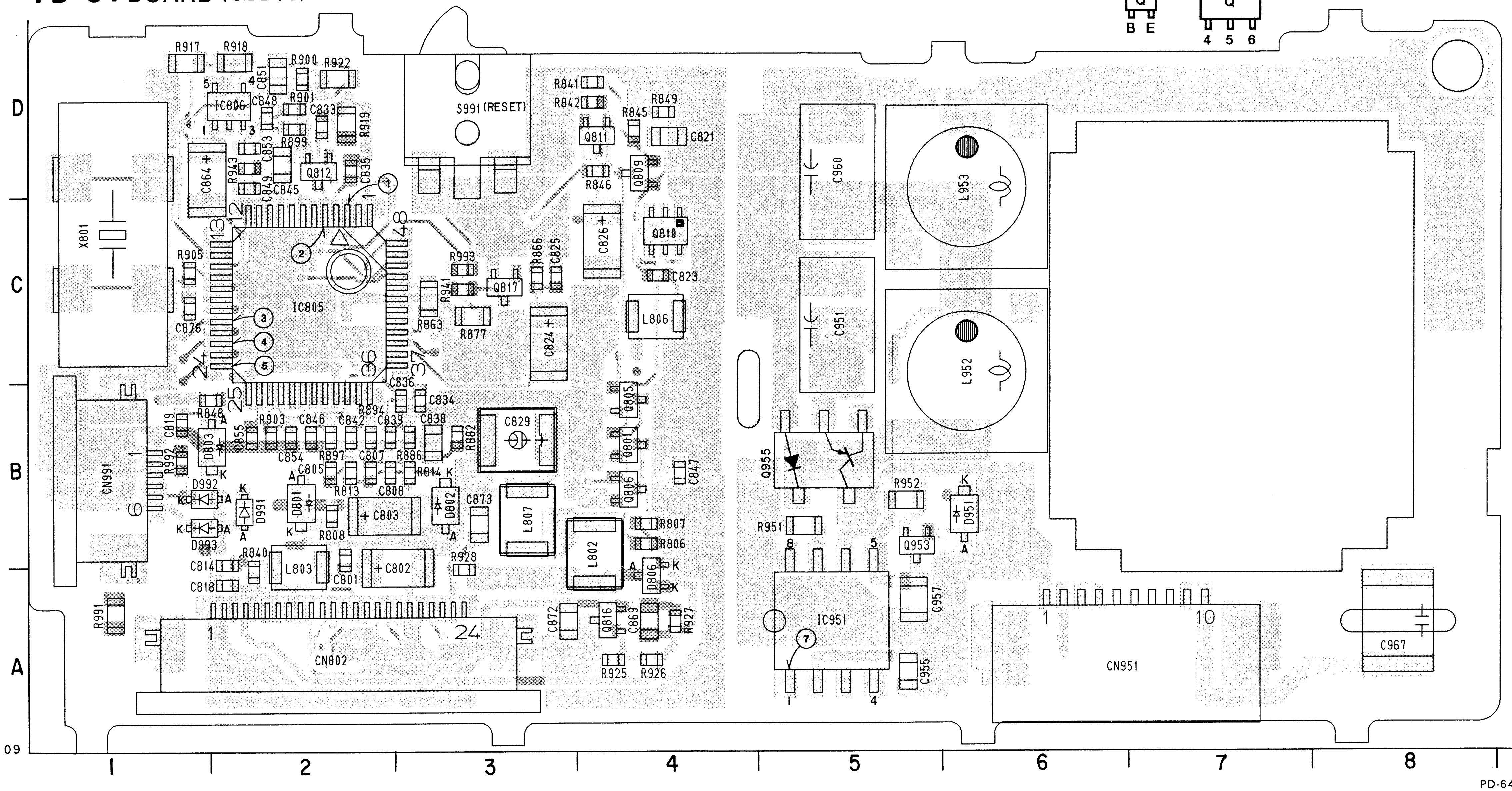
— Ref No. PD-64, FP-345 BOARDS: 7,000 series —

- **For printed wiring boards.**
- PD-64 board is six-layer print board. However, the patterns of layers 2 to 5 have not been included in the diagram.
- Chip transistor

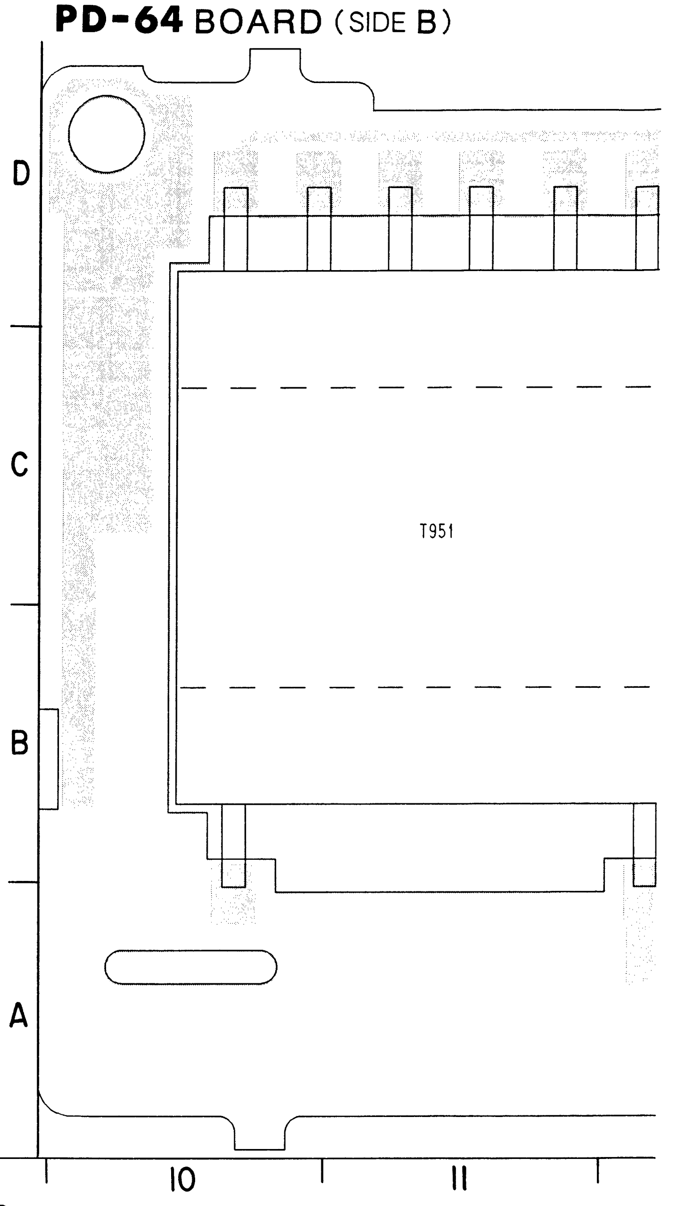

C
Q
B E
3 2 1
Q
4 5 6

There are few cases that the part isn't mounted in this model is printed on this diagram.

PD-64 BOARD (SIDE A)


D
C
B
A
1
2
3
4
5
6
7
8
09
R917
R918
R900
R922
C851
IC806
C848
R901
C833
R919
R899
C853
Q812
C835
R943
C849
C845
C864
X801
R905
C876
IC805
S991 (RESET)
R841
R842
R849
R845
Q811
C821
Q809
R846
C826
Q810
C823
R993
R866
C825
R941
Q817
R863
R877
C824
L806
C836
C834
R894
C838
C839
C842
C846
R903
R848
C819
CN991
R992
D803
C855
C854
R897
C807
R886
C805
R814
C829
R882
Q805
Q801
Q806
C847
D992
D991
D801
R813
C808
C803
D802
C873
L807
L802
R807
R806
D806
D993
R808
R840
C814
C818
L803
C801
C802
R928
R991
CN802
1
24
C872
Q816
C869
R927
R925
R926
C960
C951
L953
L952
Q955
R952
D951
R951
Q953
IC951
C957
C955
CN951
1
10
C967

PD-64 BOARD (SIDE B)

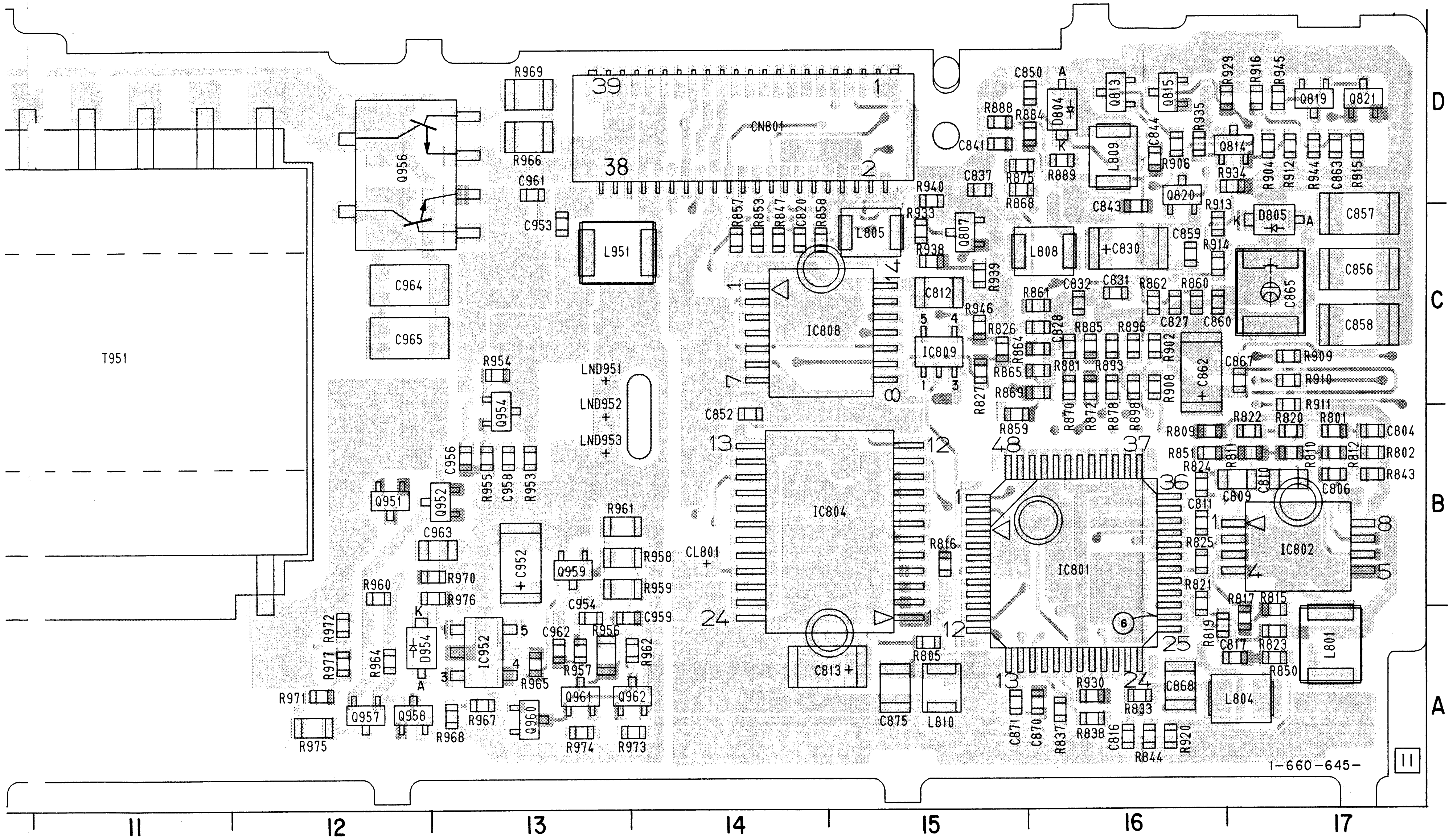

D
C
B
A
T951
9
10
11

PD-64 BOARD

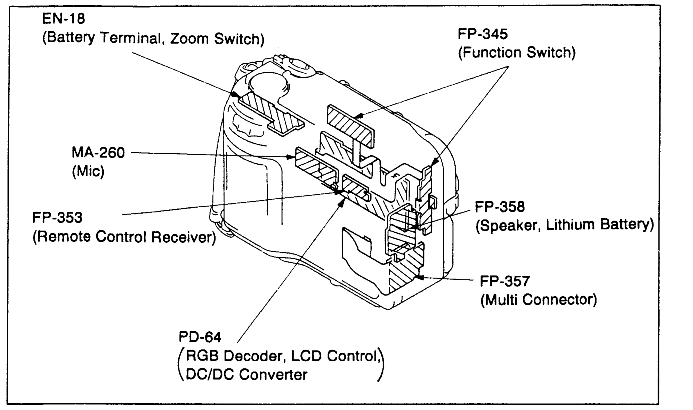
C801	B-2
C802	A-3
C803	B-2
C804	B-17
C807	B-2
C809	B-17
C810	B-17
C811	B-16
C818	A-2
C819	B-1
C820	C-14
C821	D-4
C823	C-4
C824	C-3
C826	C-4
C827	C-16
C828	C-16
C829	B-3
C830	C-16
C831	C-16
C832	C-16
C833	D-2
C834	B-3
C835	D-2
C836	B-3
C837	D-15
C838	B-3
C839	B-2
C841	D-15
C842	B-2
C843	D-16
C844	D-16
C845	D-2
C846	B-2
C847	B-4
C848	D-2
C849	D-2
C851	D-2
C852	B-14
C853	D-2
C854	B-2
C855	B-2
C856	C-17
C857	C-17
C858	C-17
C859	C-16
C860	C-16
C862	C-16
C863	D-17
C864	D-1
C865	C-17
C867	C-17
C868	A-16
C869	A-4
C870	A-16
C871	A-15
C872	A-3
C873	B-3
C875	A-15
C951	C-5
C952	B-13
C953	C-13
C954	A-13
C955	A-5
C956	B-13
C957	A-5
C958	B-13
C959	A-13
C960	D-5
C961	C-13
C963	B-13
C965	C-12
C967	A-8
CN801	D-14
CN802	A-2
CN951	A-6
CN991	B-1
D801	B-2
D802	B-3
D803	B-2
D804	D-16
D805	C-17
D954	A-12
IC801	B-16
IC802	B-17
IC804	B-14
IC805	C-2
IC806	D-2
IC808	C-14
IC951	A-5
IC952	A-13
L801	A-17
L802	B-4
L803	B-2
L804	A-17
L805	C-15
L806	C-4
L807	B-3
L808	C-16
L809	D-16
L810	A-15
L951	C-13
L952	C-6
L953	D-6
Q801	B-4
Q805	B-4
Q806	B-4
Q809	D-4
Q810	C-4
Q811	D-4
Q812	D-2
Q813	D-16
Q814	D-17
Q815	D-16
Q816	A-4
Q820	D-16
Q821	D-17
Q951	B-12
Q952	B-13
Q953	B-5
Q954	B-13
Q955	B-5
Q956	D-12
Q957	A-12
Q958	A-12
Q959	B-13
Q960	A-13
Q961	A-13
Q962	A-14
R801	B-17
R802	B-17
R805	A-15
R806	B-4
R807	B-4
R808	B-2
R809	B-16
R810	B-17
R811	B-17
R812	B-17
R813	B-2
R814	B-3
R815	A-17
R817	A-17
R819	A-16
R820	B-17
R821	B-16
R822	B-17
R824	B-16
R825	B-16
R826	C-15
R827	C-15
R833	A-16
R837	A-16
R838	A-16
R840	A-2
R841	D-4
R844	A-16
R845	D-4
R846	D-4
R847	C-14
R848	B-1
R849	D-4
R850	A-17
R851	B-16

this odel is

D SIDE B)

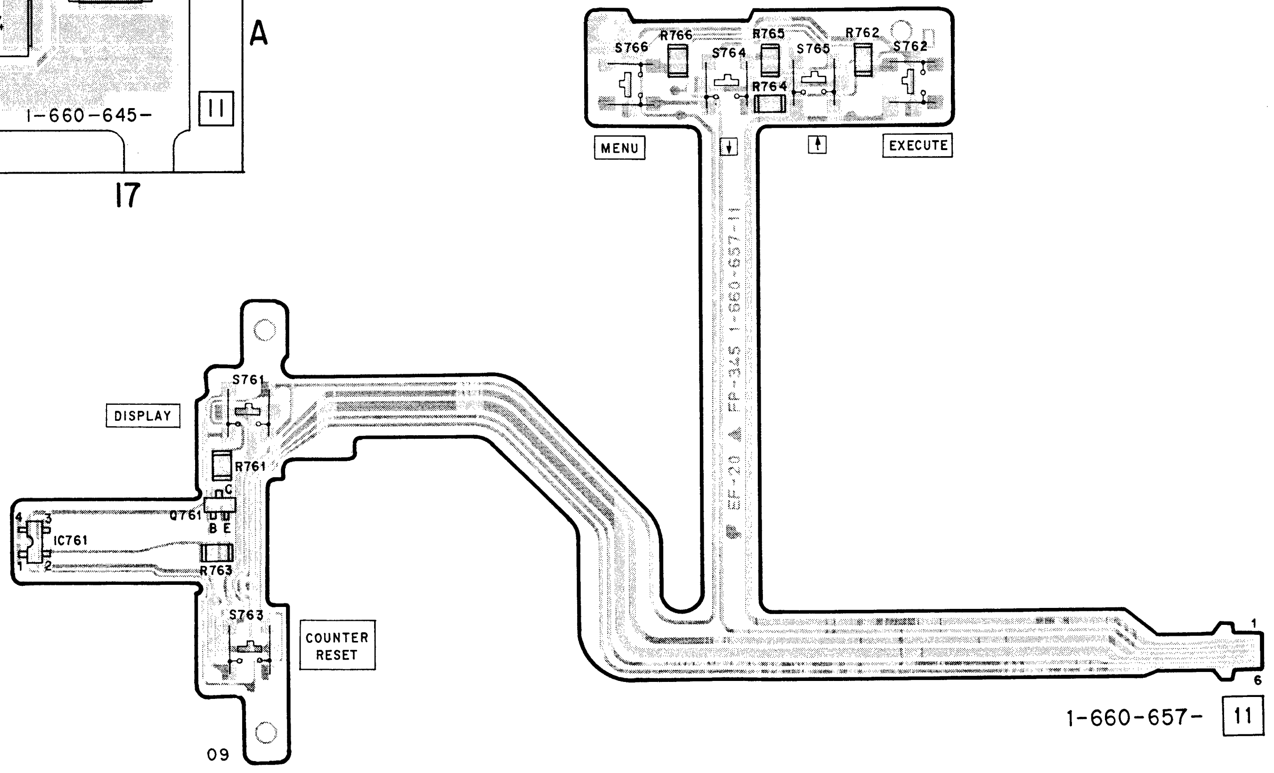


CN801
39
1
38
2
IC808
IC809
IC804
IC801
IC802
IC952
IC813
Q956
Q951
Q952
Q954
Q957
Q958
Q959
Q960
Q961
Q962
Q807
Q813
Q815
Q814
Q819
Q820
Q821
D804
D805
D954
L951
L805
L808
L809
L801
L804
L810
C964
C965
C952
C813
C830
C857
C856
C858
C862
C865
C875
C868
T951
LND951
LND952
LND953
CL801
D
C
B
A
11
12
13
14
15
16
17
1-660-645-
11



EN-18
(Battery Terminal, Zoom Switch)
FP-345
(Function Switch)
MA-260
(Mic)
FP-353
(Remote Control Receiver)
FP-358
(Speaker, Lithium Battery)
FP-357
(Multi Connector)
PD-64
(RGB Decoder, LCD Control DC/DC Converter)

FP-345 BOARD

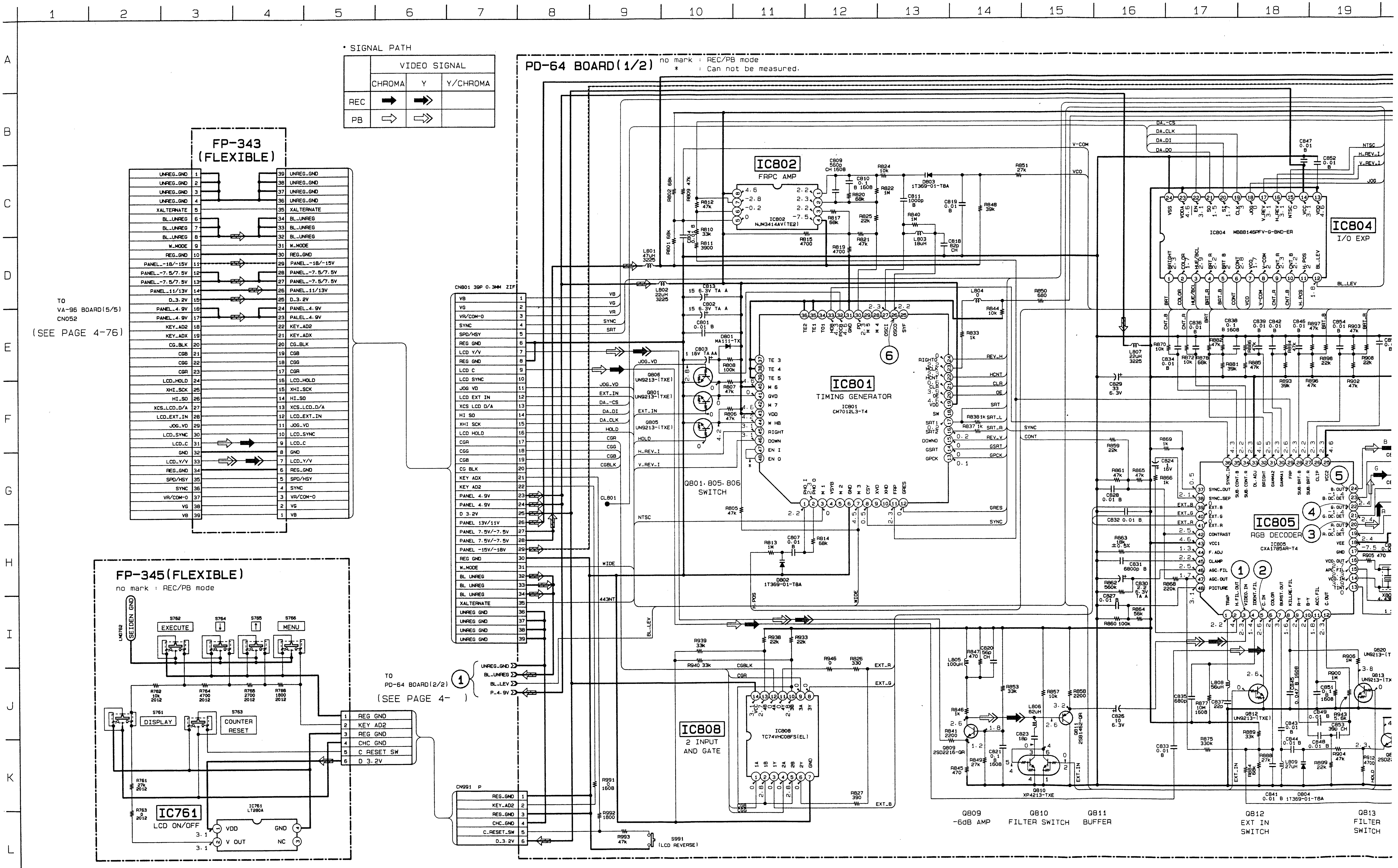


S766
R766
S764
R765
S765
R762
S762
R764
MENU
EXECUTE
DISPLAY
S761
R761
Q761
IC761
R763
S763
COUNTER RESET
EF-20
FP-345 1-660-657-11
09
1
6
1-660-657-
11

5	L808	C-16	R802	B-17	R853	C-14	R903	B-2	R954	C-13
13	L809	D-16	R805	A-15	R857	C-14	R904	D-17	R955	B-13
13	L810	A-15	R806	B-4	R858	C-14	R905	C-1	R956	A-13
12	L951	C-13	R807	B-4	R859	B-15	R906	D-16	R957	A-13
8	L952	C-6	R808	B-2	R860	C-16	R908	C-16	R958	B-13
	L953	D-6	R809	B-16	R861	C-16	R909	C-17	R959	B-13
-14			R810	B-17	R862	C-16	R910	C-17	R960	B-12
-2	Q801	B-4	R811	B-17	R863	C-3	R911	C-17	R961	B-13
-6	Q805	B-4	R812	B-17	R864	C-16	R912	D-17	R962	A-14
-1	Q806	B-4	R813	B-2	R865	C-16	R913	C-16	R964	A-12
	Q809	D-4	R814	B-3	R866	C-3	R914	C-16	R965	A-13
-2	Q810	C-4	R815	A-17	R868	D-15	R915	D-17	R966	C-13
-3	Q811	D-4	R817	A-17	R869	C-16	R916	D-17	R967	A-13
-2	Q812	D-2	R819	A-16	R870	C-16	R917	D-1	R968	A-13
-16	Q813	D-16	R820	B-17	R872	C-16	R918	D-2	R969	C-13
-17	Q814	D-17	R821	B-16	R875	D-15	R919	D-2	R970	B-13
-12	Q815	D-16	R822	B-17	R877	C-3	R920	A-16	R971	A-12
	Q816	A-4	R824	B-16	R878	C-16	R922	D-2	R972	A-12
-16	Q820	D-16	R825	B-16	R881	C-16	R925	A-4	R973	A-14
-17	Q821	D-17	R826	C-15	R882	B-3	R926	A-4	R974	A-13
-14	Q951	B-12	R827	C-15	R884	D-16	R927	A-4	R975	A-12
-2	Q952	B-13	R833	A-16	R885	C-16	R928	A-3	R976	B-13
-2	Q953	B-5	R837	A-16	R886	B-3	R929	D-17	R977	A-12
-14	Q954	B-13	R838	A-16	R888	D-15	R930	A-16	R991	A-1
-5	Q955	B-5	R840	A-2	R889	D-16	R933	C-15	R992	B-1
-13	Q956	D-12	R841	D-4	R893	C-16	R938	C-15	R993	C-3
	Q957	A-12	R844	A-16	R894	B-2	R939	C-15		
-17	Q958	A-12	R845	D-4	R896	C-16	R940	D-15	S991	D-3
-4	Q959	B-13	R846	D-4	R897	B-2	R943	D-2		
-2	Q960	A-13	R847	C-14	R898	C-16	R945	D-17	T951	C-11
-17	Q961	A-13	R848	B-1	R899	D-2	R946	C-15		
-15	Q962	A-14	R849	D-4	R900	D-2	R951	B-5	X801	C-1
-4			R850	A-17	R901	D-2	R952	B-5		
-3	R801	B-17	R851	B-16	R902	C-16	R953	B-13		

PD-64 (RGB DECODER, LCD CONTROL), FP-345 (FUNCTION SWITCH) SCHEMATIC DIAGRAMS

— Ref No. PD-64, FP-345 BOARDS: 7,000 series —

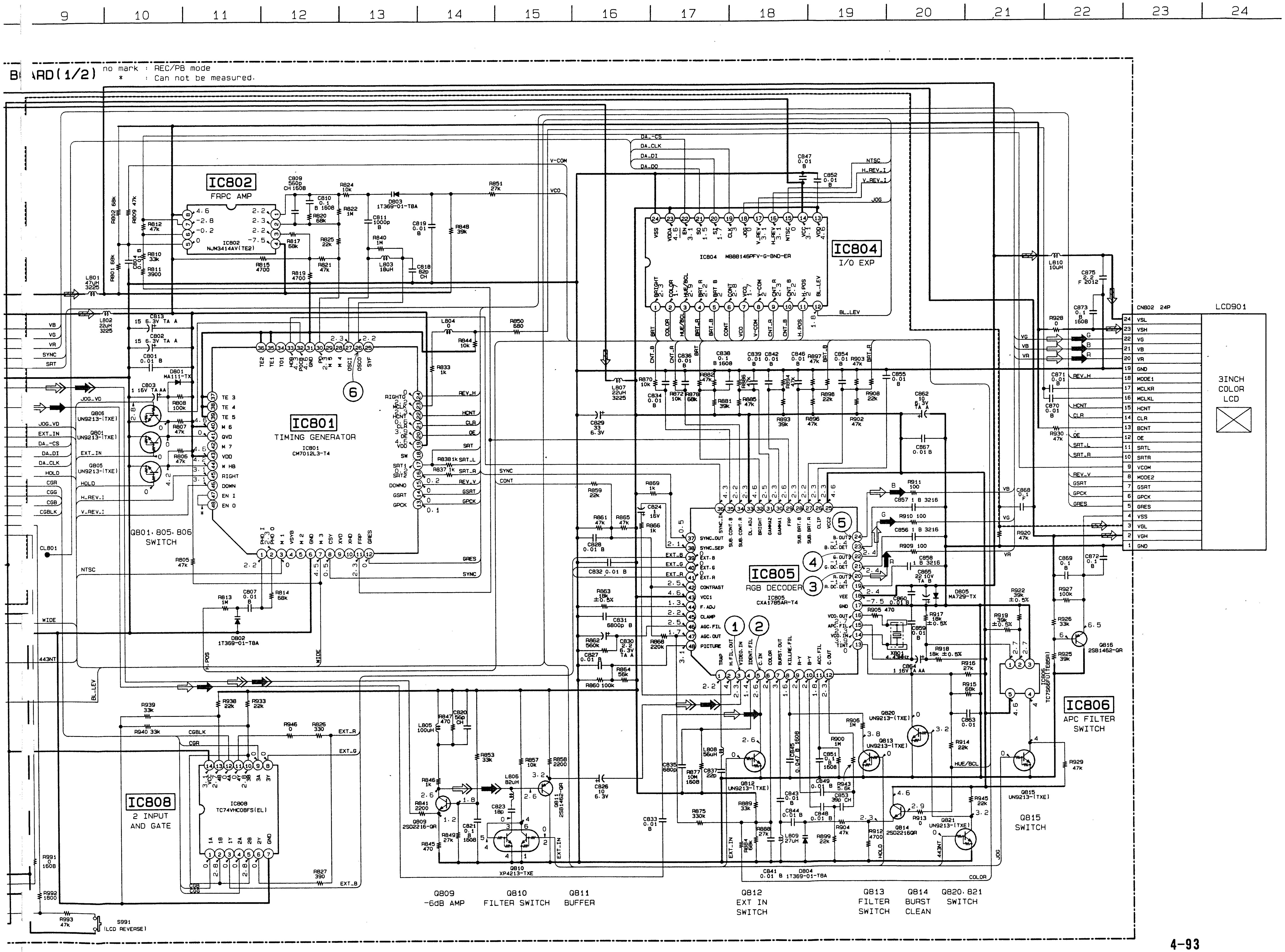


PD-64 BOARD(1/2)
no mark : REC/PB mode
* : Can not be measured.
FP-343 (FLEXIBLE)
TO VA-96 BOARD(5/5) CN052
(SEE PAGE 4-76)
FP-345(FLEXIBLE)
no mark : REC/PB mode
S762 EXECUTE
S764
S765
S766 MENU
S761 DISPLAY
S763 COUNTER RESET
IC761 LCD ON/OFF
TO PD-64 BOARD(2/2)
(SEE PAGE 4-
CN801 39P 0.3MM ZIF
CN991 P
S991 (LCD REVERSE)
IC802 FRPC AMP
IC801 TIMING GENERATOR
IC804 I/O EXP
IC805 RGB DECODER
IC808 2 INPUT AND GATE
Q801, 805, 806 SWITCH
Q809 -6dB AMP
Q810 FILTER SWITCH
Q811 BUFFER
Q812 EXT IN SWITCH
Q813 FILTER SWITCH

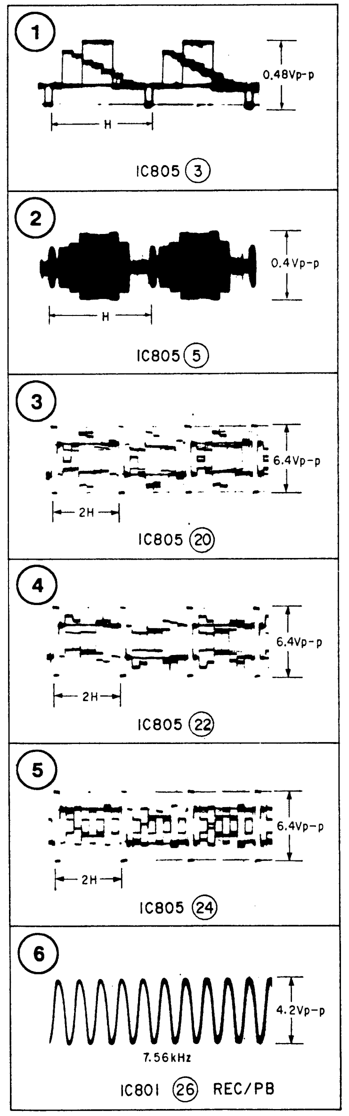
• SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡	➡»	
PB	⇨	⇨»	

09


9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
BOARD(1/2)
no mark : REC/PB mode
* : Can not be measured.
IC802
FRPC AMP
IC802 NJM3414AV(TE2)
IC801
TIMING GENERATOR
IC801 CM7012L3-T4
IC804
I/O EXP
IC804 MB88146PFV-G-BND-ER
IC805
RGB DECODER
IC805 CXA1785AR-T4
IC806
APC FILTER SWITCH
IC806 TC7S66FU(TE85R)
IC808
2 INPUT AND GATE
IC808 TC74VHC08FS(EL)
Q801, 805, 806 SWITCH
Q809 -6dB AMP
Q810 FILTER SWITCH
Q811 BUFFER
Q812 EXT IN SWITCH
Q813 FILTER SWITCH
Q814 BURST CLEAN
Q820, 821 SWITCH
Q815 SWITCH
Q816 2SB1462-QR
CN802 24P
LCD901
3INCH COLOR LCD
S991 (LCD REVERSE)

PD-64 BOARD(RGB BLOCK)REC/PB



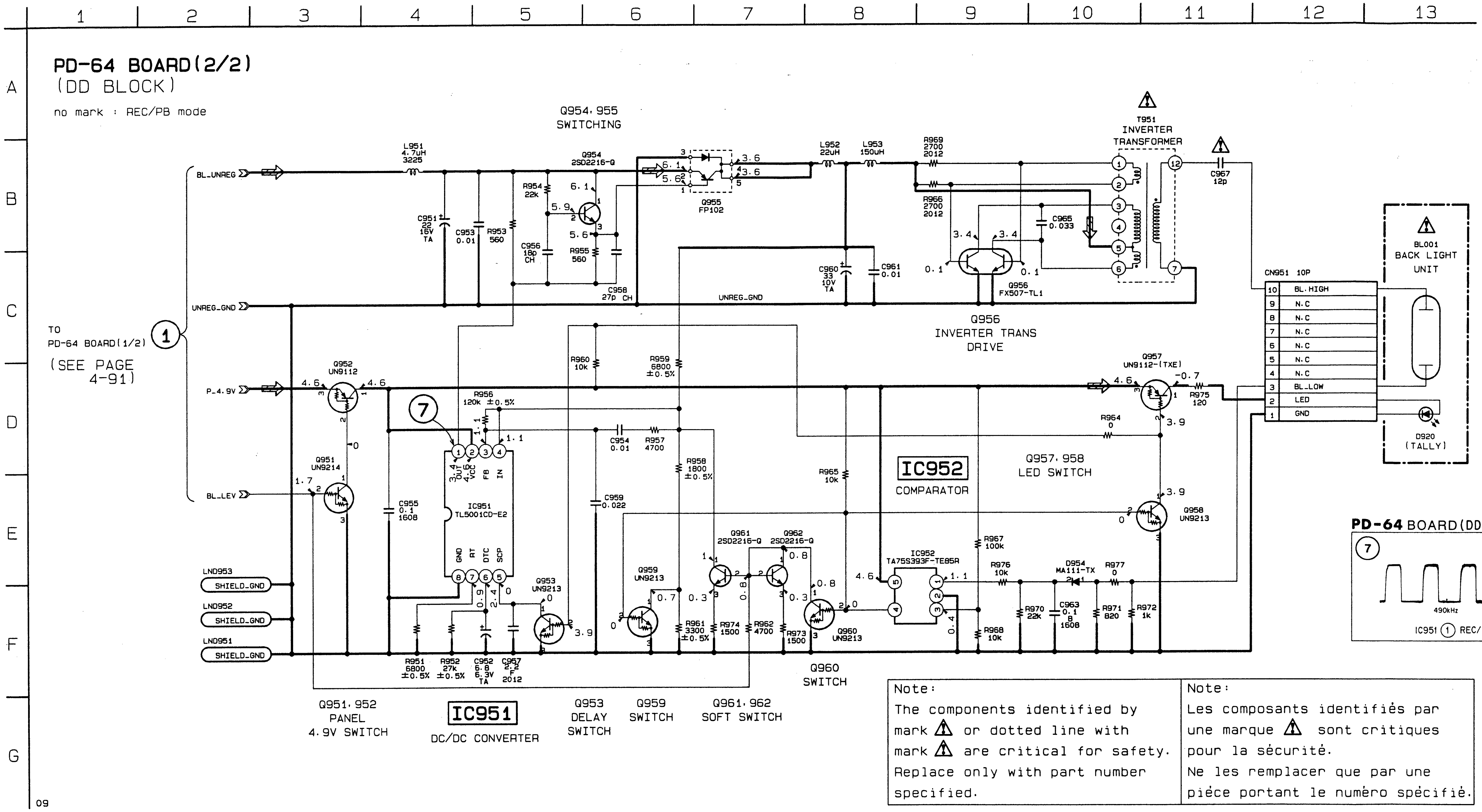
RGB DECODER, LCD CONTROL, FUNCTION SWITCH

PD-64 (1/2), FP-345

PD-64 (DC/DC CONVERTER) SCHEMATIC DIAGRAM

- Refer to page 4-87 for Printed Wiring Board.

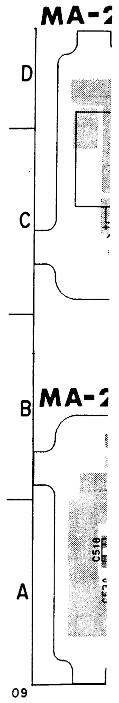
— Ref No. PD-64 BOARD: 7,000 series —


1
2
3
4
5
6
7
8
9
10
11
12
13
A
B
C
D
E
F
G
PD-64 BOARD(2/2)
(DD BLOCK)
no mark : REC/PB mode
TO
PD-64 BOARD(1/2)
(SEE PAGE 4-91)
①
BL_UNREG
UNREG_GND
P_4.9V
BL_LEV
LND953
SHIELD_GND
LND952
SHIELD_GND
LND951
SHIELD_GND
Q954, 955
SWITCHING
L951
4.7uH
3225
Q954
2SD2216-Q
R954
22k
6.1
5.9
5.6
C951
22
16V
TA
C953
0.01
R953
560
C956
18p
CH
R955
560
C958
27p CH
Q955
FP102
3.6
3.6
6.1
5.6
UNREG_GND
L952
22uH
L953
150uH
R969
2700
2012
R966
2700
2012
C960
33
10V
TA
C961
0.01
C965
0.033
3.4
3.4
0.1
0.1
Q956
FX507-TL1
Q956
INVERTER TRANS
DRIVE
T951
INVERTER
TRANSFORMER
C967
12p
CN951 10P
10 BL.HIGH
9 N.C
8 N.C
7 N.C
6 N.C
5 N.C
4 N.C
3 BL_LOW
2 LED
1 GND
BL001
BACK LIGHT
UNIT
D920
(TALLY)
Q952
UN9112
4.6
4.6
Q951
UN9214
1.7
0
⑦
R956
120k ±0.5%
1.1
1.1
C955
0.1
1608
IC951
TL5001CD-E2
OUT VCC FB IN
GND RT DTC SCP
R960
10k
R959
6800
±0.5%
C954
0.01
R957
4700
R958
1800
±0.5%
C959
0.022
Q953
UN9213
3.9
0
R951
6800
±0.5%
R952
27k
±0.5%
C952
6.8
6.3V
TA
C957
2.2
F
2012
Q959
UN9213
0.7
Q961
2SD2216-Q
Q962
2SD2216-Q
0.8
0.3
0.3
0.8
R961
3300
±0.5%
R974
1500
R962
4700
R973
1500
Q960
UN9213
Q960
SWITCH
R965
10k
IC952
COMPARATOR
IC952
TA75S393F-TE85R
4.6
1.1
0.4
R967
100k
R968
10K
R976
10k
D954
MA111-TX
R977
0
R970
22k
C963
0.1
B
1608
R971
820
R972
1k
Q957
UN9112-(TXE)
-0.7
R975
120
R964
0
3.9
Q957, 958
LED SWITCH
3.9
Q958
UN9213
Q951, 952
PANEL
4.9V SWITCH
IC951
DC/DC CONVERTER
Q953
DELAY
SWITCH
Q959
SWITCH
Q961, 962
SOFT SWITCH
PD-64 BOARD(DD BLOCK)
⑦
4.8Vp-p
490kHz
IC951 ① REC/PB
09

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

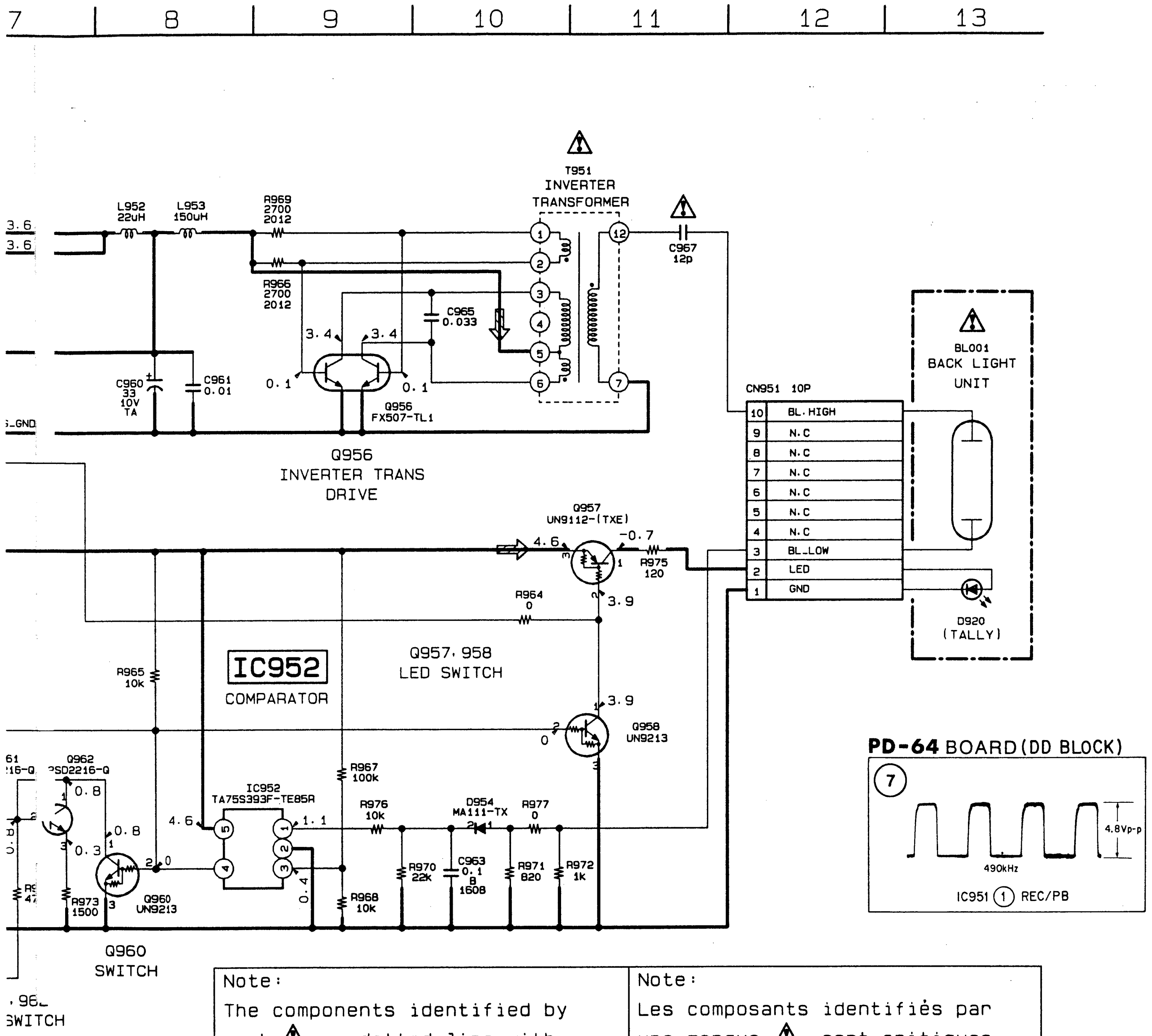
MA-260 (

— Ref No. M


MA-2
D
C
B
MA-2
A
09

MA-260 BOA

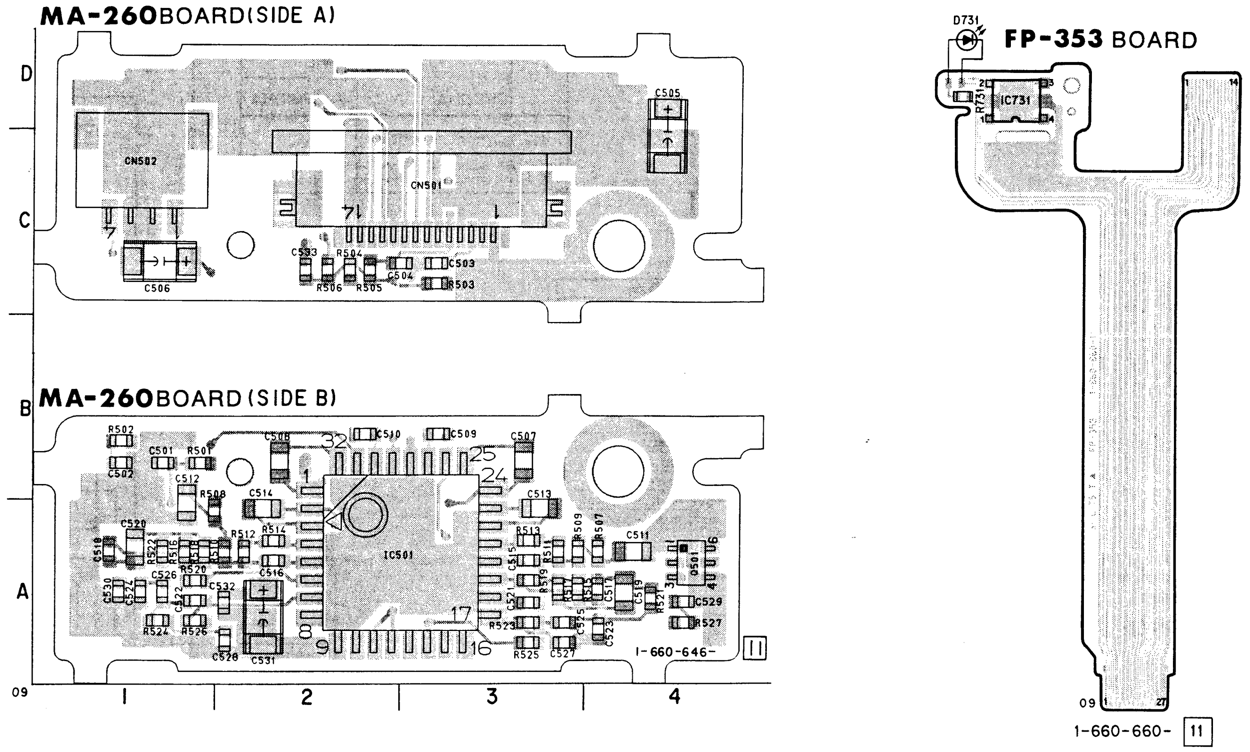
C501	B-1
C502	B-1
C505	C-4
C506	C-1
C507	B-3
C508	B-2
C509	B-3
C510	B-2
C511	A-4
C512	A-1
C513	A-3
C514	A-2
C515	A-3
C516	A-2
C517	A-4
C518	A-1
C519	A-4
C520	A-1
C521	A-3
C522	A-1
C525	A-3
C526	A-1
C527	A-3
C528	A-2
C529	A-4
C530	A-1
C531	A-2
C532	A-2
C533	C-2
CN501	C-3
CN502	C-1


7
8
9
10
11
12
13
T951
INVERTER
TRANSFORMER
L952
22uH
L953
150uH
R969
2700
2012
R966
2700
2012
C967
12p
C965
0.033
C960
33
10V
TA
C961
0.01
Q956
FX507-TL1
Q956
INVERTER TRANS
DRIVE
BL001
BACK LIGHT
UNIT
CN951 10P
BL.HIGH
N.C
BL.LOW
LED
GND
D920
(TALLY)
Q957
UN9112-(TXE)
R975
120
R964
0
IC952
COMPARATOR
Q957, 958
LED SWITCH
Q958
UN9213
R965
10k
Q962
2SD2216-Q
IC952
TA75S393F-TE85R
R967
100k
R976
10k
D954
MA111-TX
R977
0
R970
22k
C963
0.1
B
1608
R971
820
R972
1k
R968
10k
R973
1500
Q960
UN9213
Q960
SWITCH
PD-64 BOARD (DD BLOCK)
⑦
4.8Vp-p
490kHz
IC951 ① REC/PB

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

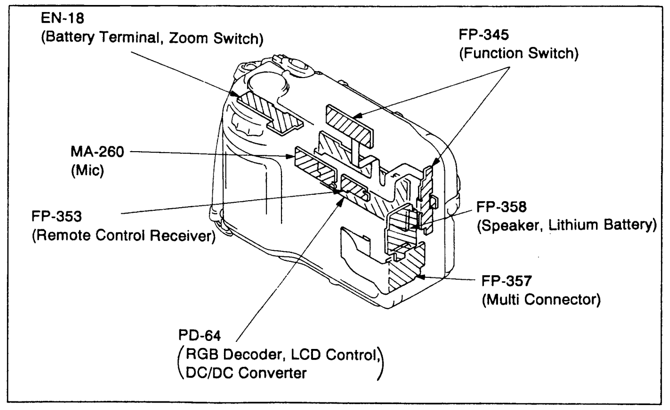
MA-260 (MIC), FP-353 (REMOTE CONTROL RECEIVER) PRINTED WIRING BOARDS

— Ref No. MA-260, FP-353 BOARDS: 6,000 series —


MA-260 BOARD (SIDE A)
MA-260 BOARD (SIDE B)
FP-353 BOARD
D731
IC731
CN502
CN501
IC501
D
C
B
A
1
2
3
4
1-660-646- 11
1-660-660- 11

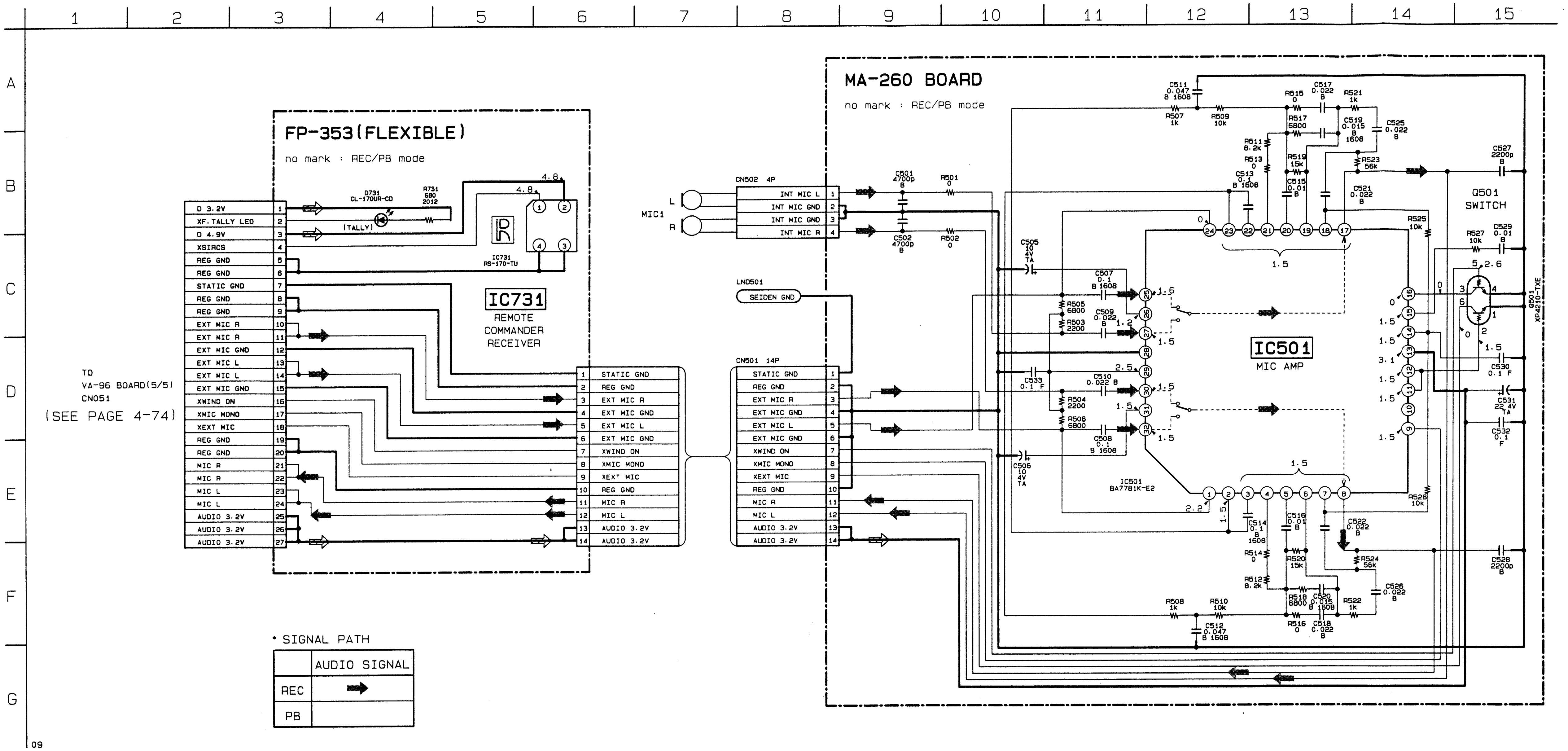
MA-260 BOARD

C501	B-1	IC501	A-3
C502	B-1		
C505	C-4	Q501	A-4
C506	C-1		
C507	B-3	R501	B-1
C508	B-2	R502	B-1
C509	B-3	R503	C-3
C510	B-2	R504	C-2
C511	A-4	R505	C-2
C512	A-1	R506	C-2
C513	A-3	R507	A-4
C514	A-2	R508	A-1
C515	A-3	R509	A-3
C516	A-2	R510	A-2
C517	A-4	R511	A-3
C518	A-1	R512	A-2
C519	A-4	R513	A-3
C520	A-1	R514	A-2
C521	A-3	R515	A-3
C522	A-1	R516	A-1
C525	A-3	R517	A-3
C526	A-1	R518	A-1
C527	A-3	R519	A-3
C528	A-2	R520	A-1
C529	A-4	R521	A-4
C530	A-1	R522	A-1
C531	A-2	R523	A-3
C532	A-2	R524	A-1
C533	C-2	R525	A-3
		R526	A-1
CN501	C-3	R527	A-4
CN502	C-1		


EN-18
(Battery Terminal, Zoom Switch)
FP-345
(Function Switch)
MA-260
(Mic)
FP-353
(Remote Control Receiver)
FP-358
(Speaker, Lithium Battery)
FP-357
(Multi Connector)
PD-64
(RGB Decoder, LCD Control)
(DC/DC Converter)

MA-260 (MIC), FP-353 (REMOTE CONTROL RECEIVER) SCHEMATIC DIAGRAMS

— Ref No. MA-260, FP-353 BOARDS: 6,000 series —


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
A
B
C
D
E
F
G
09
FP-353(FLEXIBLE)
no mark : REC/PB mode
D731
CL-170UR-CD
R731
680
2012
(TALLY)
4.8
4.8
IC731
RS-170-TU
IC731
REMOTE
COMMANDER
RECEIVER
TO
VA-96 BOARD(5/5)
CN051
(SEE PAGE 4-74)
D 3.2V 1
XF.TALLY LED 2
D 4.9V 3
XSIRCS 4
REG GND 5
REG GND 6
STATIC GND 7
REG GND 8
REG GND 9
EXT MIC R 10
EXT MIC R 11
EXT MIC GND 12
EXT MIC L 13
EXT MIC L 14
EXT MIC GND 15
XWIND ON 16
XMIC MONO 17
XEXT MIC 18
REG GND 19
REG GND 20
MIC R 21
MIC R 22
MIC L 23
MIC L 24
AUDIO 3.2V 25
AUDIO 3.2V 26
AUDIO 3.2V 27
1 STATIC GND
2 REG GND
3 EXT MIC R
4 EXT MIC GND
5 EXT MIC L
6 EXT MIC GND
7 XWIND ON
8 XMIC MONO
9 XEXT MIC
10 REG GND
11 MIC R
12 MIC L
13 AUDIO 3.2V
14 AUDIO 3.2V
MIC1
L
R
CN502 4P
INT MIC L 1
INT MIC GND 2
INT MIC GND 3
INT MIC R 4
LND501
SEIDEN GND
CN501 14P
STATIC GND 1
REG GND 2
EXT MIC R 3
EXT MIC GND 4
EXT MIC L 5
EXT MIC GND 6
XWIND ON 7
XMIC MONO 8
XEXT MIC 9
REG GND 10
MIC R 11
MIC L 12
AUDIO 3.2V 13
AUDIO 3.2V 14
MA-260 BOARD
no mark : REC/PB mode
C501 4700p B
C502 4700p B
R501 0
R502 0
C505 10 4V TA
C506 10 4V TA
C507 0.1 B 1608
C508 0.1 B 1608
C509 0.022 B
C510 0.022 B
C511 0.047 B 1608
C512 0.047 B 1608
C513 0.1 B 1608
C514 0.1 B 1608
C515 0.01 B
C516 0.01 B
C517 0.022 B
C518 0.022 B
C519 0.015 B 1608
C520 0.015 B 1608
C521 0.022 B
C522 0.022 B
C525 0.022 B
C526 0.022 B
C527 2200p B
C528 2200p B
C529 0.01 B
C530 0.1 F
C531 22 4V TA
C532 0.1 F
C533 0.1 F
R503 2200
R504 2200
R505 6800
R506 6800
R507 1k
R508 1k
R509 10k
R510 10k
R511 8.2k
R512 8.2k
R513 0
R514 0
R515 0
R516 0
R517 6800
R518 6800
R519 15k
R520 15k
R521 1k
R522 1k
R523 56k
R524 56k
R525 10k
R526 10k
R527 10k
IC501
MIC AMP
IC501
BA7781K-E2
Q501
SWITCH
Q501
XP4210-TXE
1.5
1.6
1.2
2.5
3.1
2.2
2.6
0

• SIGNAL PATH

	AUDIO SIGNAL
REC	➡
PB	

SECTION 5
REPAIR PARTS LIST

5-1. EXPLODED VIEWS

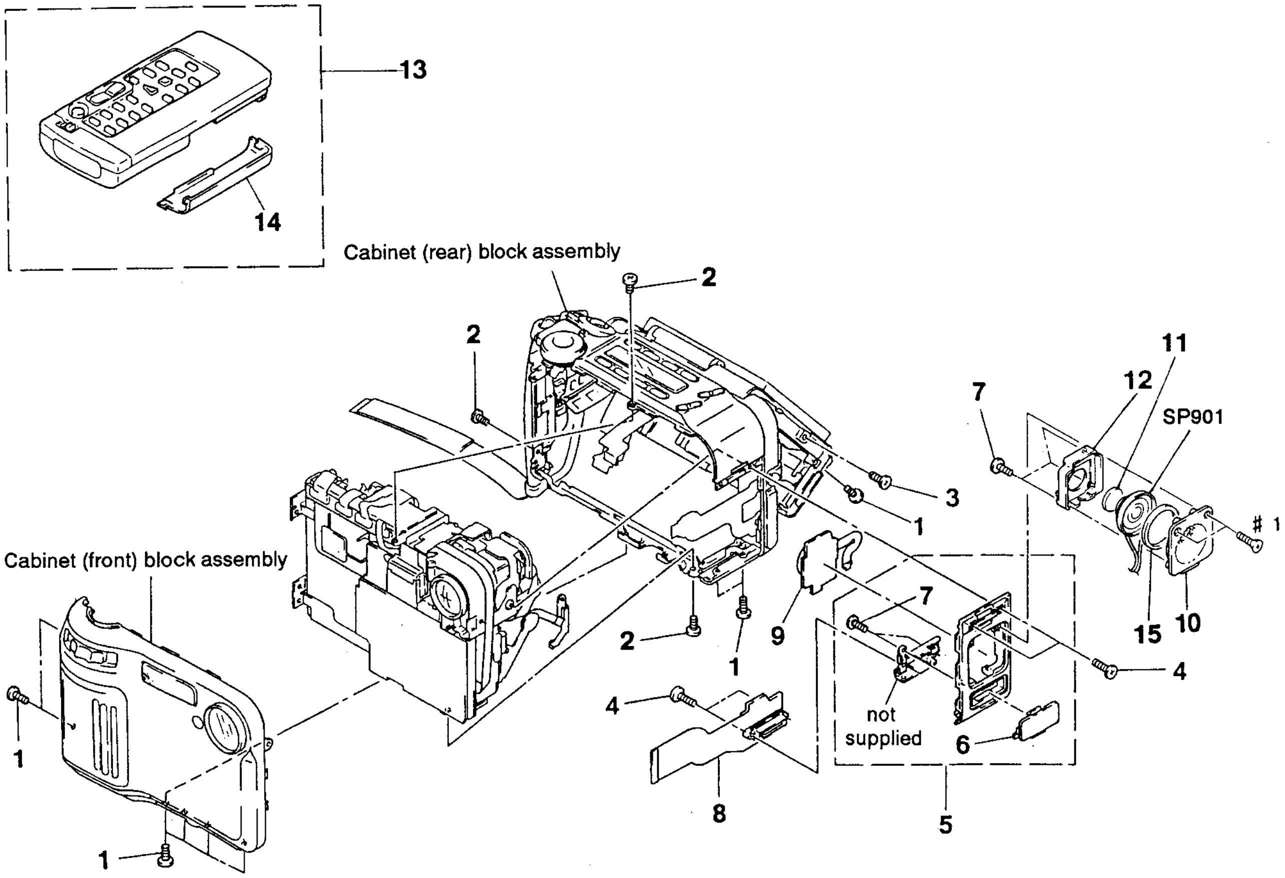
NOTE:

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked " ＊ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.
- Canadian model is abbreviated as CND.
- Hong Kong model is abbreviated as HK.
- Australian model is abbreviated as AUS.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

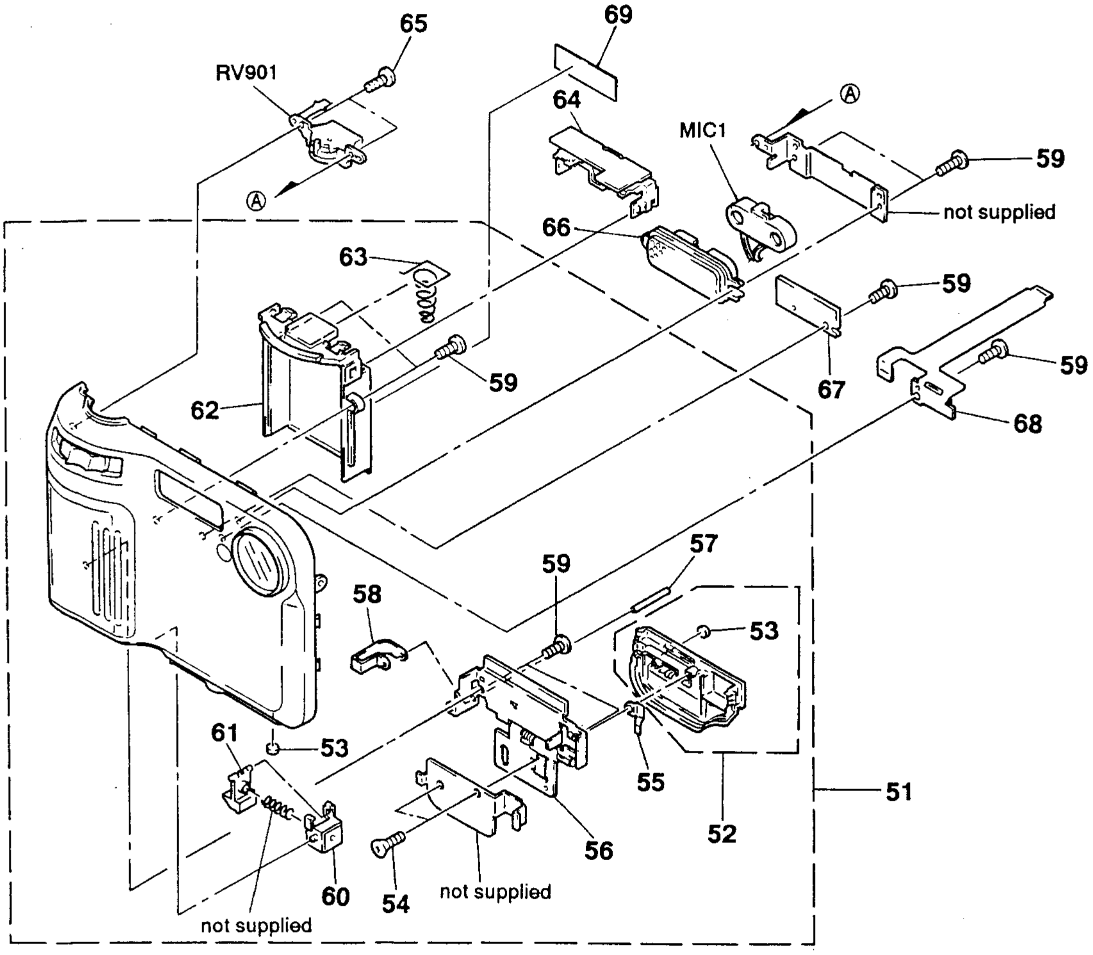
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

5-1-1. CABINET (SIDE) ASSEMBLY



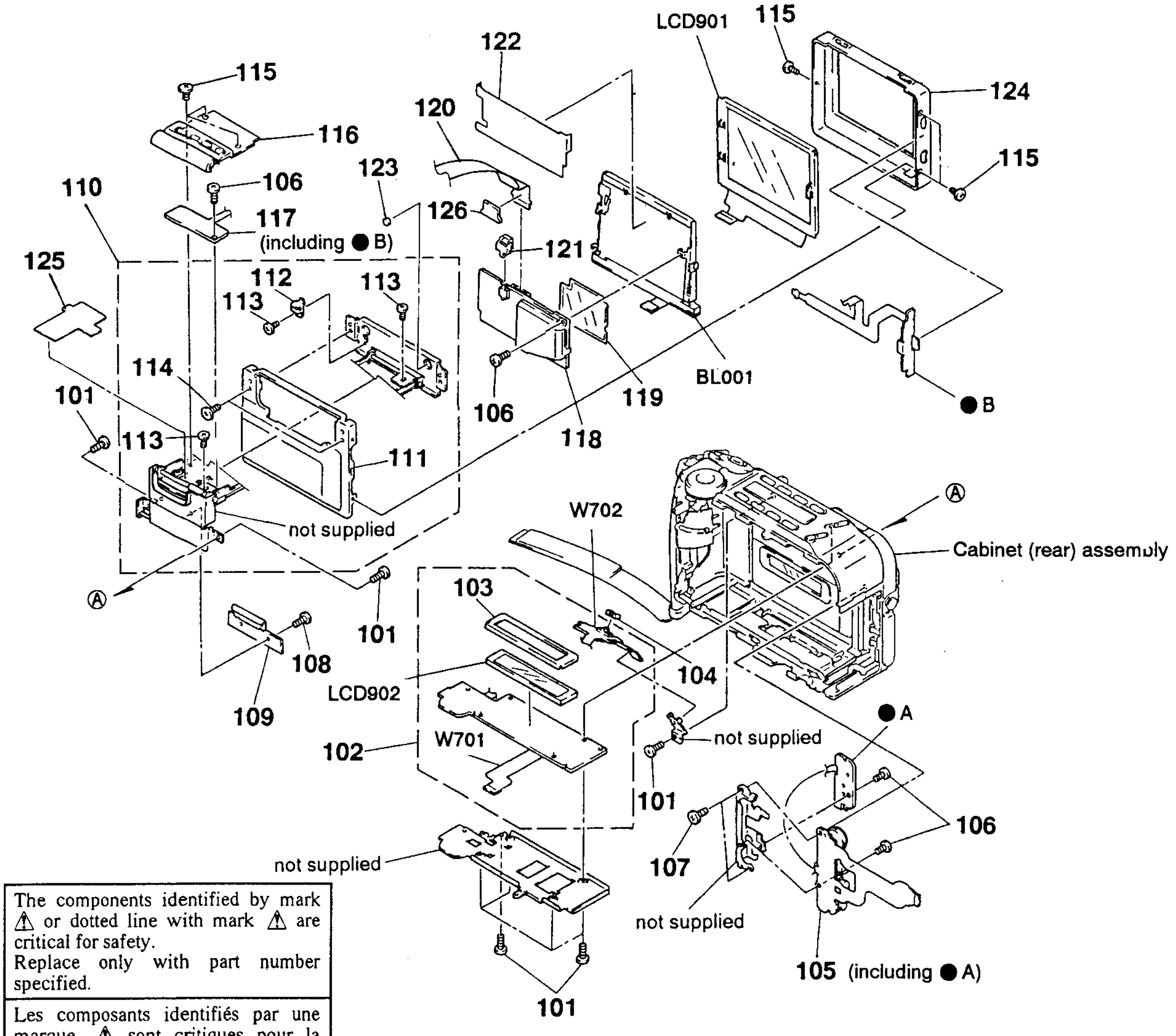
Ref. No.	Part No.	Description	Remark
1	3-968-729-01	SCREW (M2), LOCK ACE, P2	
2	3-713-786-21	SCREW (M2X3)	
3	3-968-729-21	SCREW (M2), LOCK ACE, P2	
4	3-968-729-11	SCREW (M2), LOCK ACE, P2	
5	X-3946-051-1	CABINET (SIDE) ASSY	
6	3-969-372-01	COVER, CONNECTOR	
7	3-948-339-01	SCREW, TAPPING	
8	A-7072-588-A	FP-357 BOARD, COMPLETE	
9	1-660-664-11	FP-358 FLEXIBLE BOARD	
10	3-969-494-01	CABINET (SP)	
11	3-969-492-01	SEAL (REAR), SP	
12	3-969-491-01	SP CASE	
13	8-917-540-90	REMOCON RMT-715//M SET (SC55/SC55E:E, AUS, HK)	
13	8-917-541-90	REMOCON RMT-716//M SET (SC55E:AEP, UK)	
14	3-742-854-01	LID, BATTERY CASE (for RMT-715/716)	
15	3-971-679-01	SPACER, SP	
SP901	1-505-278-11	SPEAKER (DIA 2.3CM)	

5-1-2. CABINET (FRONT) ASSEMBLY


65
69
RV901
64
MIC1
Ⓐ
Ⓐ
59
not supplied
66
63
59
62
59
67
59
68
57
59
58
53
61
53
55
51
52
56
60
54
not supplied
not supplied

Ref. No.	Part No.	Description	Remark
51	X-3946-311-1	CABINET (FRONT) ASSY (SC55E)	
51	X-3946-503-1	CABINET (FRONT) ASSY (SC55)	
52	X-3946-529-1	BATTERY (LID) ASSY	
53	3-969-387-01	FOOT, RUBBER	
54	3-736-363-21	SCREW	
* 55	3-969-381-01	SPRING, BT CLICK	
56	X-3946-047-1	SHAFT ASSY, BATTERY	
57	3-969-451-01	SHAFT, HOOK	
* 58	3-969-450-01	HOOK (LOWER)	
59	3-948-339-01	SCREW, TAPPING	
60	3-969-384-01	COVER, BT LOCK CLAW	
61	3-969-383-11	CLAW, BT LOCK	
62	3-969-441-01	HOLDER, BATTERY	
63	3-969-380-01	SPRING, BATTERY	
* 64	A-7072-586-A	EN-18 BOARD, COMPLETE	
65	3-719-408-11	SCREW (B2), TAPPING, P3	
66	X-3946-046-1	HOLDER ASSY, MICROPHONE	
* 67	A-7072-803-A	MA-260 BOARD, COMPLETE (SC55E)	
* 67	A-7072-833-A	MA-260 BOARD, COMPLETE (SC55)	
68	A-7072-587-A	FP-353 BOARD, COMPLETE	
* 69	3-970-508-01	SHEET, FLEXIBLE FIXED	
MIC1	1-542-286-11	MICROPHONE ASSY (STEREO)	
RV901	1-225-225-11	RES, VAR (ZOOM) 20K	

5-1-3. LCD ASSEMBLY

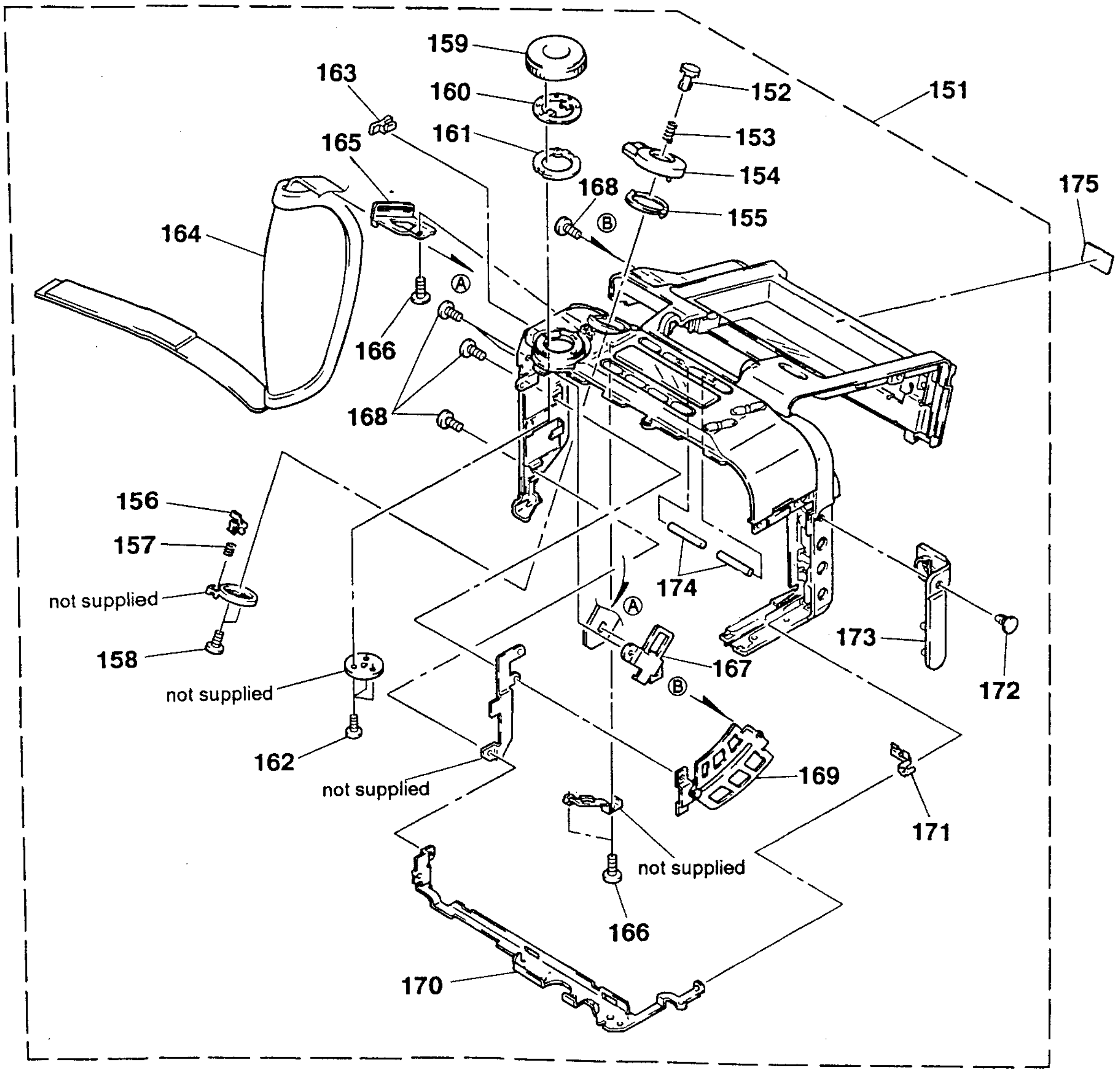

LCD901
115
122
124
115
120
116
123
110
106
117
(including ● B)
126
121
125
112
113
113
114
101
113
106
119
BL001
● B
118
111
not supplied
Ⓐ
W702
Cabinet (rear) assemuly
Ⓐ
103
101
108
104
LCD902
109
● A
102
W701
not supplied
101
106
107
not supplied
not supplied
105 (including ● A)
101

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
101	3-948-339-01	SCREW, TAPPING	
* 102	A-7072-706-A	KY-33 BOARD, COMPLETE	
* 103	3-969-467-01	HOLDER, LCD	
104	3-969-374-01	KNOB, PW	
105	A-7072-584-A	FP-342 BOARD, COMPLETE	
106	3-713-786-21	SCREW (M2X3)	
107	3-719-408-11	SCREW (B2), TAPPING, P3	
108	3-968-729-21	SCREW (M2), LOCK ACE, P2	
* 109	3-970-460-01	COVER, FLEXIBLE	
110	X-3946-053-1	CABINET (REAR) ASSY, LCD	
111	3-969-399-01	CABINET (REAR A), LCD	
112	3-969-481-01	CLAW, LOCK	
113	3-704-197-12	SCREW (M1.4X2.0), LOCKING	
114	3-719-381-31	SCREW (M2X3)	
115	4-969-980-11	SCREW (M1.4)(IB LOCK), PAN	
116	X-3946-308-1	HINGE (F) ASSY	
117	A-7072-583-A	FP-345 BOARD, COMPLETE	
* 118	A-7066-855-A	PD-64 BOARD, COMPLETE (SC55E)	
* 118	A-7092-901-A	PD-64 BOARD, COMPLETE (SC55)	
* 119	3-969-489-01	SHEET, PD SHIELD	
120	1-660-655-11	FP-343 FLEXIBLE BOARD	
* 121	3-970-891-01	HOLDER, SW	
* 122	3-970-456-01	COVER, LIGHT GUIDE PLATE	
123	3-969-387-01	FOOT, RUBBER	
124	X-3946-307-1	CABINET (FRONT) ASSY, LCD	
125	3-971-087-01	SHEET, LCD FLEXIBLE FIXED	
* 126	3-971-088-02	SHEET, FLEXIBLE	
⚠BL001	1-517-525-21	TUBE, FLUORESCENT, COLD CATHODE	
LCD901	1-801-190-11	DISPLAY MODULE, LIQUID CRYSTAL	
LCD902	1-801-241-21	DISPLAY PANEL, LIQUID CRYSTAL	
W701	1-660-656-11	FP-344 FLEXIBLE BOARD	
W702	1-660-659-11	FP-348 FLEXIBLE BOARD	

5-1-4. CABINET (REAR) ASSEMBLY


159
163
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152
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161
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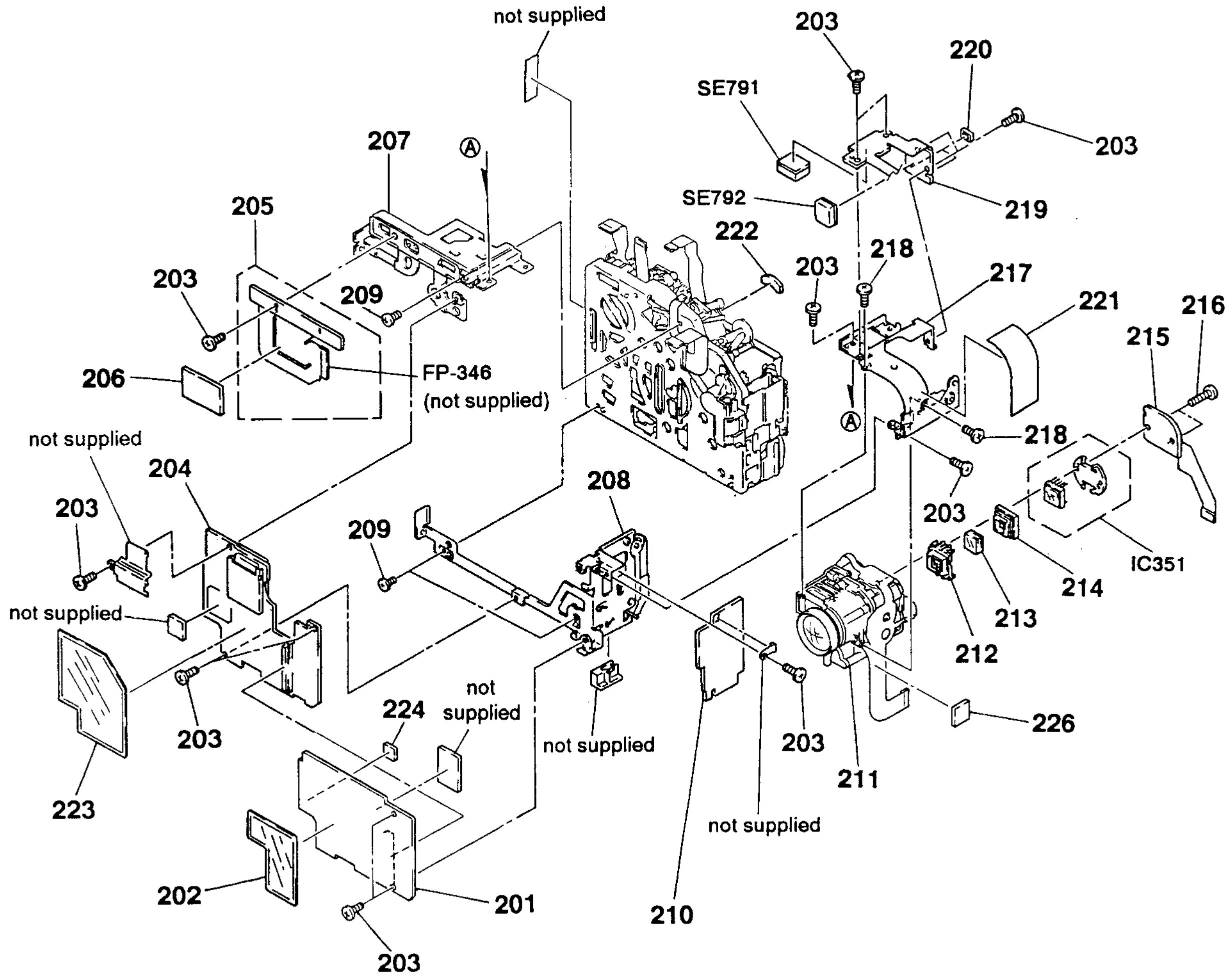
165
154
168
175
155
Ⓑ
164
Ⓐ
166
168
156
157
not supplied
174
Ⓐ
173
158
167
not supplied
Ⓑ
172
162
169
not supplied
171
not supplied
166
170

Ref. No.	Part No.	Description	Remark
151	X-3946-309-1	CABINET (REAR) ASSY(SC55E:AEP, UK)	
151	X-3946-335-1	CABINET (REAR) ASSY(SC55/SC55E:E, AUS, HK)	
152	3-969-468-01	BUTTON, PW	
153	3-969-469-01	SPRING, COMPRESSION	
154	X-3946-505-1	RING (A) ASSY, PW (SC55/SC55E:E, AUS, HK)	
154	X-3946-530-1	RING (A) ASSY, PW (SC55E:AEP, UK)	
155	3-969-472-01	SPRING, PW RING	
156	3-969-473-01	LOCK (A), PW	
157	3-969-474-01	SPRING, COMPRESSION	
158	3-948-339-21	SCREW, TAPPING	
159	3-969-464-01	DIAL, AE	
160	3-969-461-01	RING, AE	
161	3-969-465-01	SPRING, AE	
162	3-318-382-01	SCREW (1.7X3), TAPPING	
163	3-969-462-01	KNOB, SS	
164	3-969-500-01	BELT, G	
165	3-969-412-01	HOOK, S BELT	
166	3-948-339-01	SCREW, TAPPING	
* 167	3-969-501-01	PLATE, G BELT FIXED	
168	3-968-729-21	SCREW (M2), LOCK ACE, P2	
169	X-3946-049-1	HINGE (L) ASSY	
* 170	3-969-420-01	REINFORCEMENT	
171	3-969-498-01	SPRING, RESET	
172	3-969-505-01	PIN, JC	
173	3-969-497-01	COVER, JACK	
174	3-969-451-01	SHAFT, HOOK	
* 175	3-704-367-01	LABEL (SC55)	

5-1-5. MAIN BOARDS ASSEMBLY


not supplied
203
220
SE791
203
207
Ⓐ
205
SE792
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222
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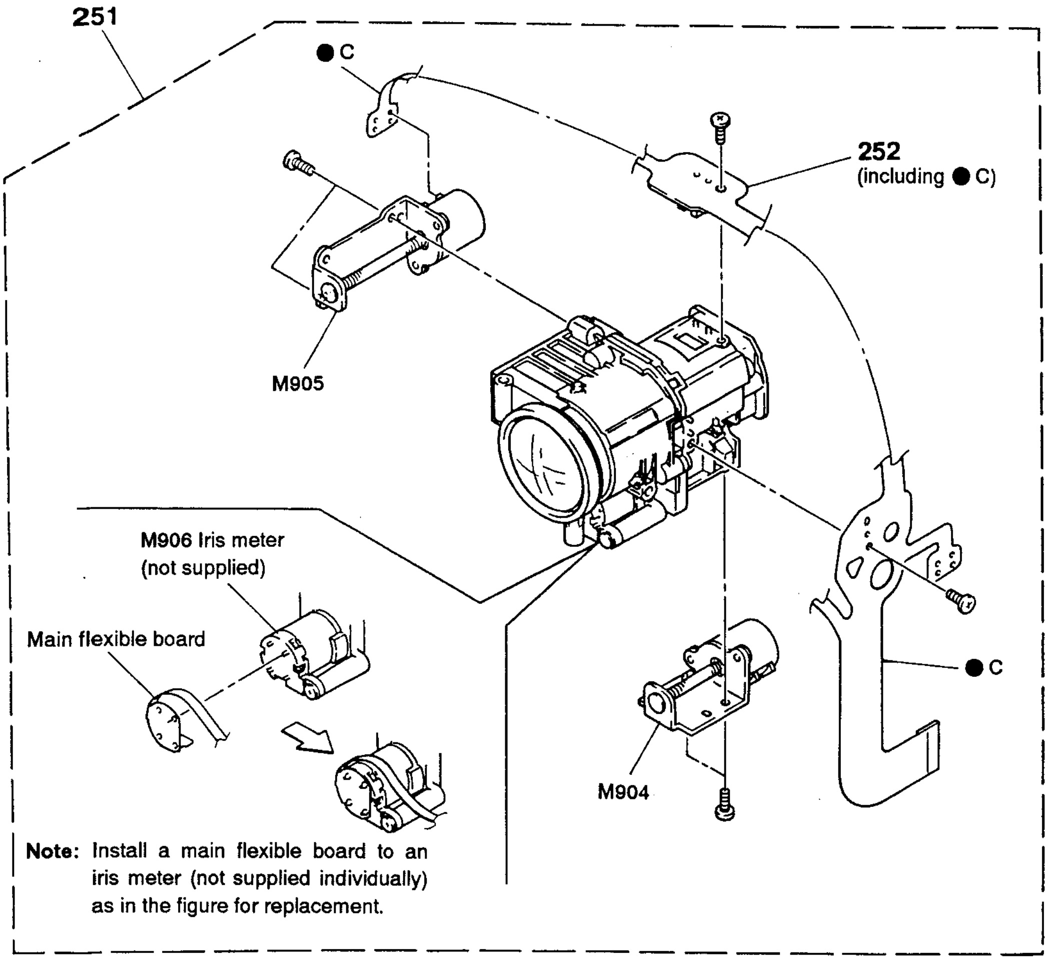
221
216
215
206
FP-346
(not supplied)
not supplied
204
Ⓐ
218
208
203
203
209
IC351
214
not supplied
213
212
not
224
supplied
226
203
not supplied
203
211
223
not supplied
202
201
210
203

Be sure to read "Note on the CCD Imager replacement" on page 4-8 when changing the CCD imager.

Ref. No.	Part No.	Description	Remark
* 201	A-7066-853-A	VA-96 BOARD, COMPLETE (SC55E)	
* 201	A-7092-900-A	VA-96 BOARD, COMPLETE (SC55)	
* 202	3-970-413-01	SHEET, VA SHIELD	
203	3-713-786-21	SCREW (M2X3)	
* 204	A-7066-852-A	VD-25 BOARD, COMPLETE (SC55E)	
* 204	A-7092-899-A	VD-25 BOARD, COMPLETE (SC55)	
* 205	A-7072-577-A	SL-54 BOARD, COMPLETE	
* 206	3-970-414-01	CUSHION, MD	
* 207	X-3946-059-1	FRAME (UPPER) ASSY	
208	X-3946-055-1	FRAME (LOWER) ASSY	
209	3-703-816-41	SCREW (M1.4X2.5), SPECIAL HEAD	
* 210	A-7066-854-A	CH-92 BOARD, COMPLETE (SC55E)	
* 210	A-7092-994-A	CH-92 BOARD, COMPLETE (SC55)	
211	1-547-931-11	LENS, ZOOM (VCL-4210VA)	
212	3-953-816-01	ADAPTOR (F), CCD FITTING	
213	1-547-767-41	FILTER BLOCK, OPTICAL	
214	3-961-192-01	RUBBER (FH), SEAL	
215	1-660-653-11	FP-340 FLEXIBLE BOARD	
216	3-318-203-11	SCREW (B1.7X6), TAPPING	
* 217	3-969-419-01	FRAME, LENS	
218	3-713-791-01	SCREW (M1.7X4), TAPPING, P2	
219	A-7072-579-A	FP-354 BOARD, COMPLETE	
* 220	3-970-459-01	COVER, LED	
* 221	3-970-508-01	SHEET, FLEXIBLE FIXED	
* 222	3-970-496-01	SHEET, DRUM	
223	3-971-089-02	SHEET, KT SHIELD	
224	3-971-090-01	CUSHION, VA	
226	3-971-097-01	CUSHION, LENS	
IC351	A-7030-638-A	CCD BLOCK ASSY (079 SERVICE) (CCD IMAGER)(SC55)	
IC351	A-7030-659-A	CCD BLOCK ASSY (071 SERVICE) (CCD IMAGER)(SC55E)	
SE791	1-801-216-31	SENSOR, ANGULAR VELOCITY (PITCH)	
SE792	1-801-216-41	SENSOR, ANGULAR VELOCITY (YAW)	

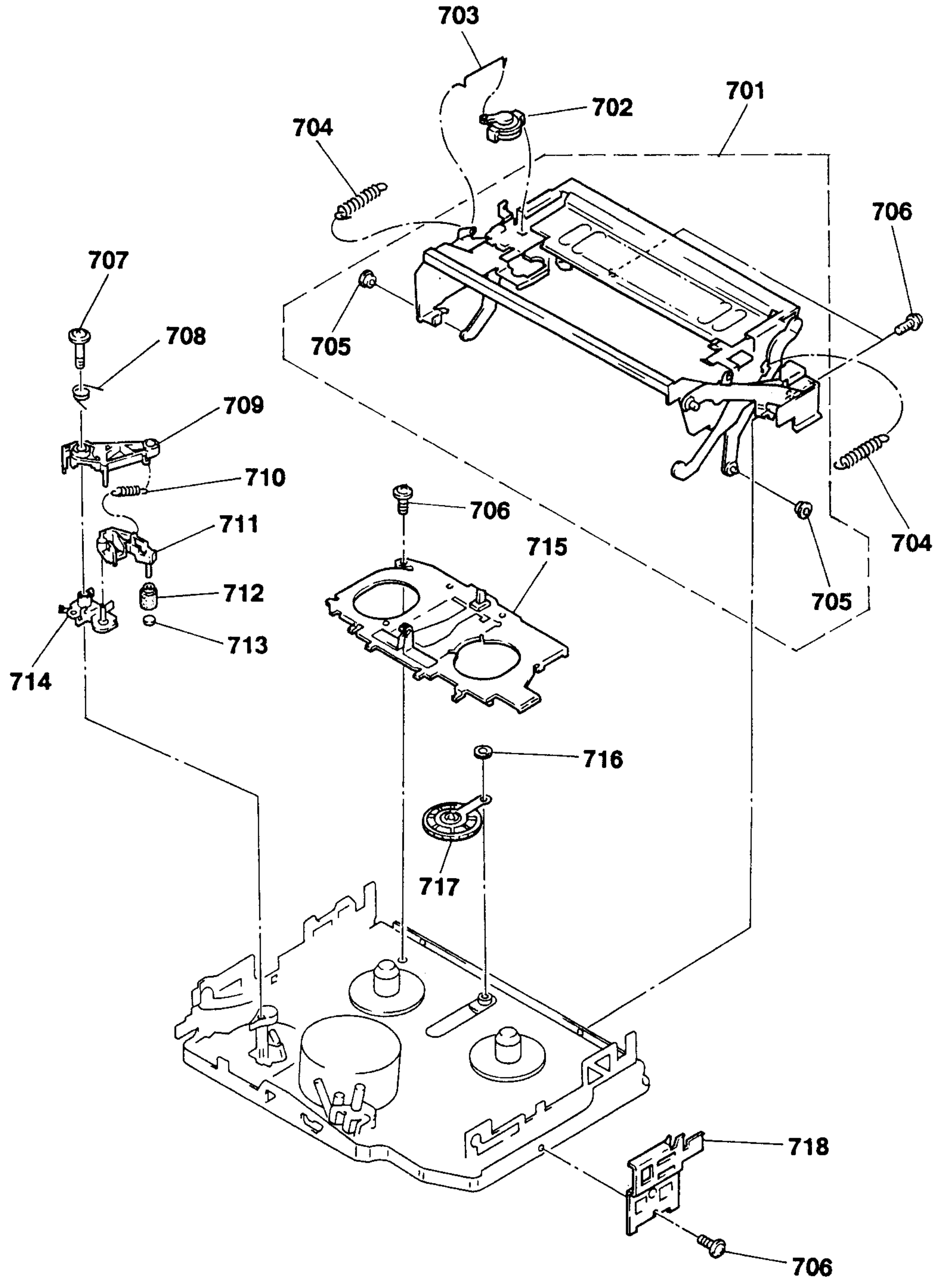
5-1-6. ZOOM LENS ASSEMBLY (VCL-4210VA)


251
●C
252
(including ● C)
M905
M906 Iris meter
(not supplied)
Main flexible board
M904
●C

Note: Install a main flexible board to an iris meter (not supplied individually) as in the figure for replacement.

Ref.No.	Part No.	Description	Remark
251	1-547-931-11	LENS, ZOOM (VCL-4210VA)	
252	3-709-099-01	MAIN FLEXIBLE BOARD	
M904	3-709-098-01	MOTOR UNIT, FOCUS	
M905	3-709-097-01	MOTOR UNIT, ZOOM	

5-1-7. CASSETTE COMPARTMENT ASSEMBLY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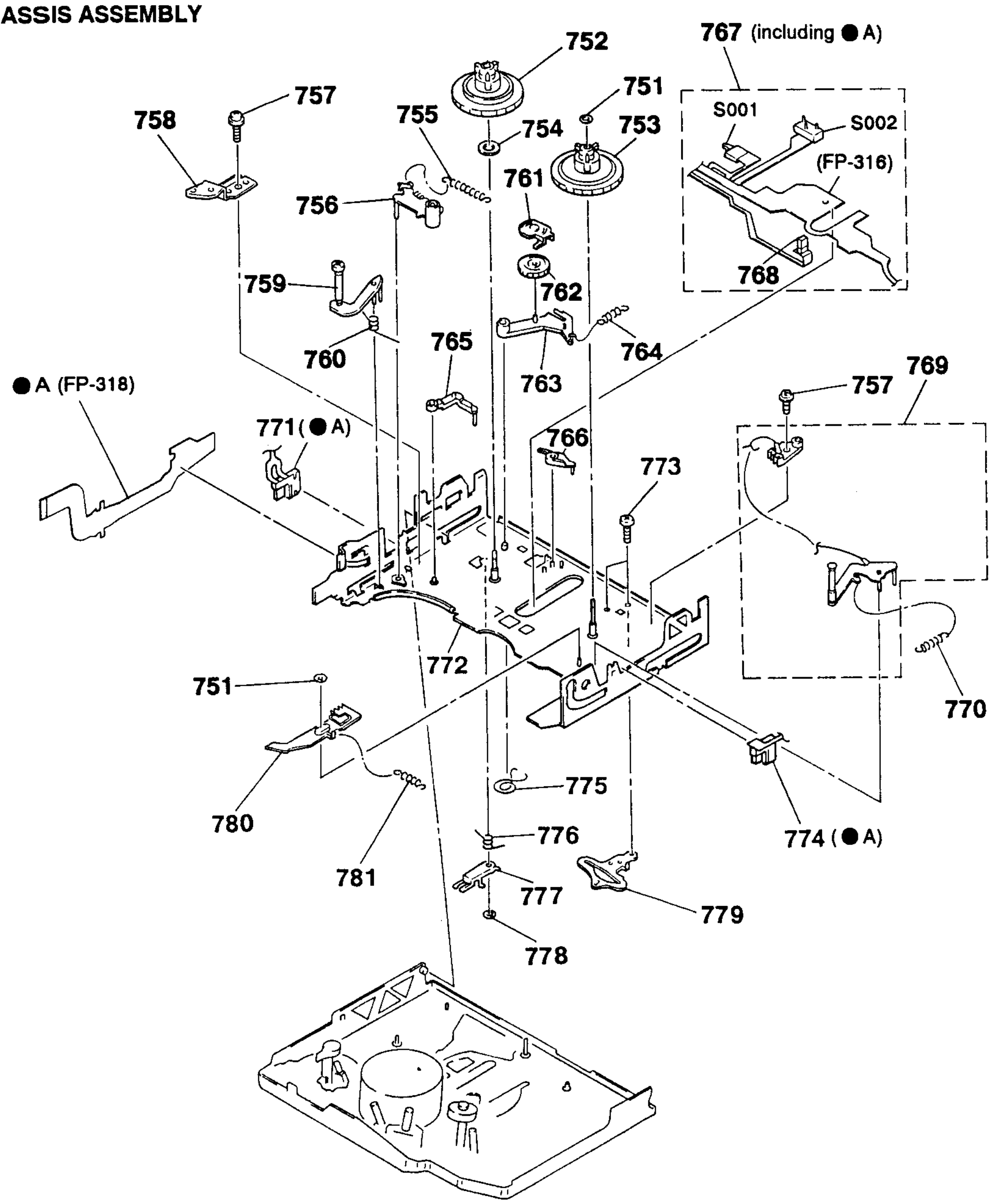
Ref. No.	Part No.	Description	Remark
701	X-3946-023-2	COMPARTMENT ASSY, CASSETTE	
702	A-7040-453-A	DAMPER BLOCK ASSY	
703	3-969-333-01	ARM, DAMPER SUB	
704	3-969-332-01	SPRING (C-UP), TENSION COIL	
705	3-969-331-01	ROLLER, C	
706	3-947-503-01	SCREW (M1.4X2.5)	
707	3-954-941-01	SCREW (M 1.4)	
708	3-954-939-01	SPRING, TORSION	
709	3-954-910-01	LEVER, HP	
710	3-969-337-01	SPRING (HC), TENSION COIL	
711	X-3946-024-1	ARM ASSY, HC	
712	X-3944-503-2	ROLLER ASSY, HC	
713	3-315-414-31	WASHER	
714	3-955-824-01	PLATE, HP	
715	X-3944-226-1	RETAINER ASSY, GOOSENECK	
716	3-331-007-21	WASHER	
717	X-3946-022-1	GEAR ASSY, GOOSENECK	
* 718	3-954-745-01	RETAINER, CASSETTE COMPARTMENT	

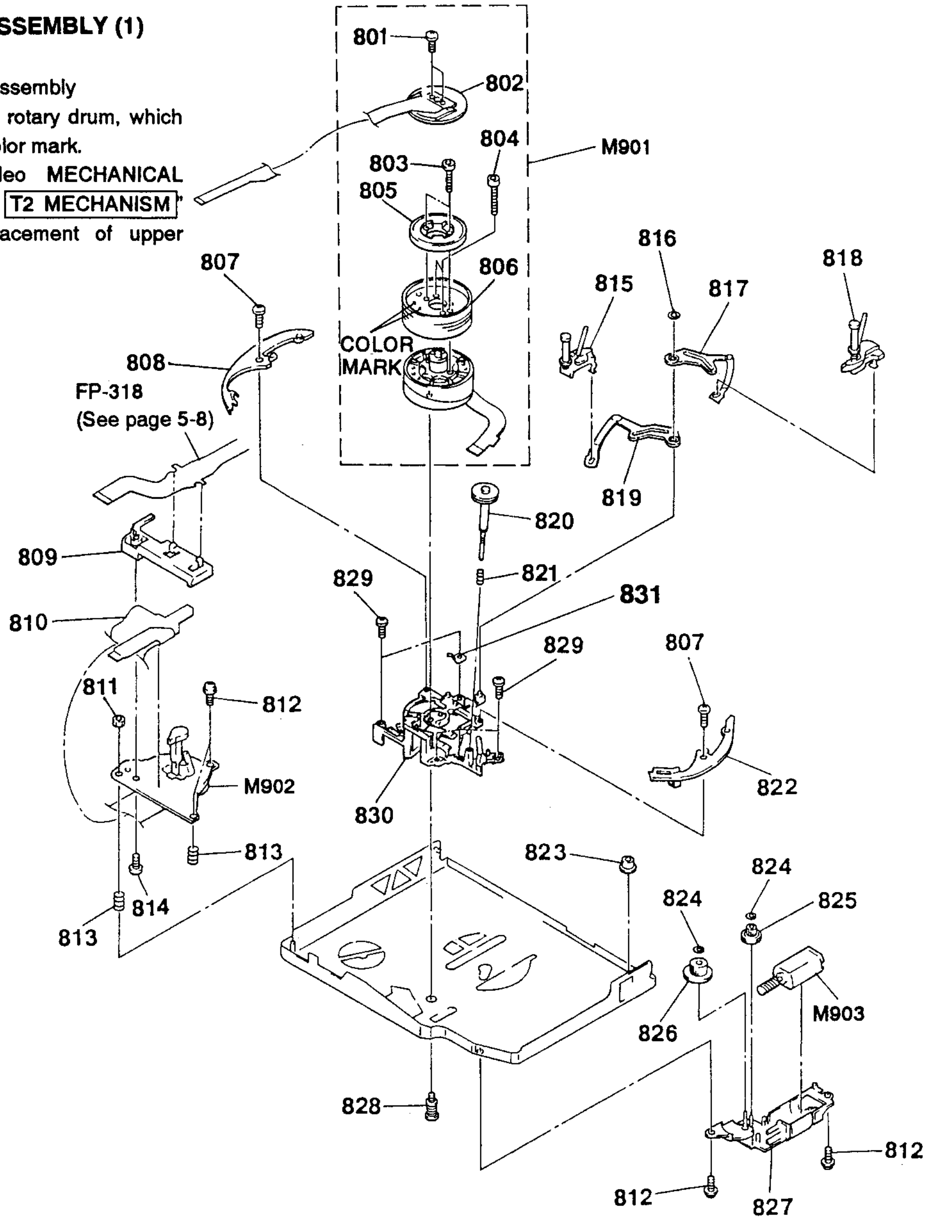
5-1-8. LS CHASSIS ASSEMBLY


752
767 (including ● A)
757
751
758
755
754
753
S001
S002
(FP-316)
761
756
768
759
762
765
764
760
763
769
● A (FP-318)
757
771(● A)
766
773
772
751
770
775
780
776
774(● A)
781
777
779
778

Ref. No.	Part No.	Description	Remark
751	3-331-007-21	WASHER	
752	X-3943-732-1	TABLE ASSY, T REEL	
753	X-3943-733-1	TABLE ASSY, S REEL	
754	3-959-694-01	WASHER (LT), THRUST	
755	3-954-730-01	SPRING, TENSION	
756	X-3943-139-1	ARM ASSY, PINCH	
757	3-947-503-01	SCREW (M1.4X2.5)	
758	3-955-811-01	RETAINER, TG 9 ARM	
759	A-7040-368-A	ARM BLOCK ASSY, TG9	
760	3-954-729-01	SPRING, TORSION	
761	3-966-835-01	CLAW (VA), T SOFT	
762	3-966-834-01	GEAR (VA), T SOFT	
763	3-954-853-01	ARM, T SOFT	
764	3-954-854-01	SPRING, TENSION	
765	3-954-850-01	RATCHET, T	
766	3-954-855-01	ARM, T SOFT RELEASE	
767	A-7072-567-A	FP-316 BOARD, COMPLETE (SENSOR FLEXIBLE BOARD, COMPLETE) (Including FP-318 BOARD)	
768	3-732-046-01	HOLDER, LED	
769	X-3944-552-1	ARM ASSY (VA), TG1	
770	3-954-871-04	SPRING, TENSION	
771	3-954-887-01	HOLDER (T), SENSOR	
772	X-3946-021-1	CHASSIS ASSY, LS	
773	3-728-103-11	SCREW (M1.4X1.6), SPECIAL HEAD	
774	3-969-308-02	HOLDER (S2), SENSOR	
775	3-954-804-01	SPRING, LIMITER	
776	3-954-806-01	SPRING, TORSION	
777	3-954-805-01	ARM, T RATCHET RELEASE	
778	3-954-807-01	WASHER	
779	3-954-809-01	PLATE, CAM, LS	
780	3-957-931-02	RATCHET, S	
781	3-954-852-01	SPRING, TENSION	
S001	1-572-288-11	SWITCH, PUSH (C.C. LOCK)	
S002	1-692-614-11	SWITCH, PUSH (3 KEY) (Hi8 MP, REC PROOF, ME/MP)	

5-1-9. MECHANISM CHASSIS ASSEMBLY (1)

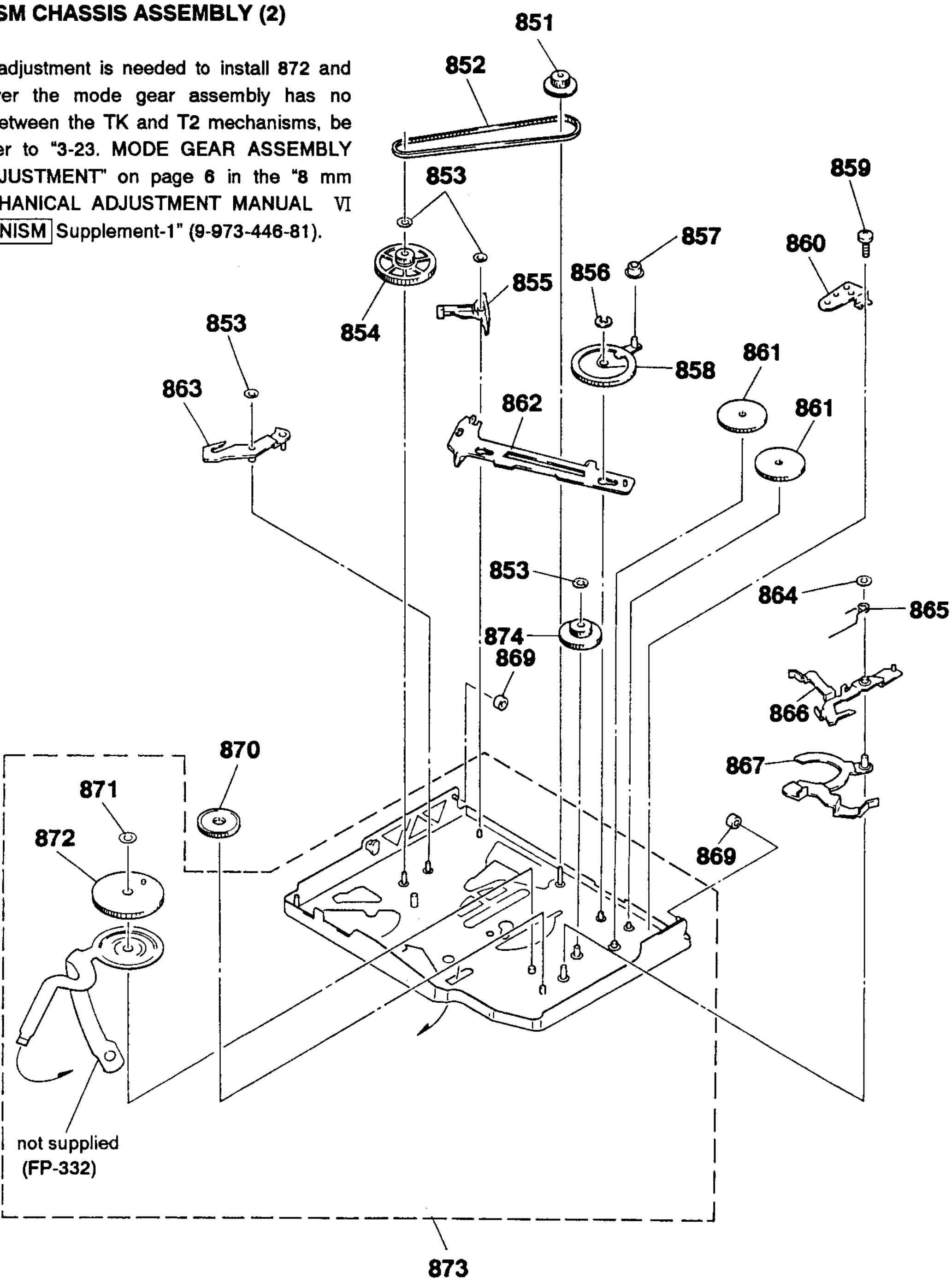
Note: About the upper rotary drum assembly
There are two kinds of upper rotary drum, which can be distinguished by the color mark.
Refer to the "8 mm Video MECHANICAL ADJUSTMENT MANUAL Ⅷ T2 MECHANISM" (9-973-866-11) for the replacement of upper rotary drum assembly



Ref. No.	Part No.	Description	Remark
801	3-728-108-41	SCREW (M1.4X2.7)	
802	A-7049-716-A	MOTOR BLOCK ASSY (STATOR)	
803	3-969-200-01	BOLT (M1.7X3.3), HEXAGON SOCKET	
804	3-727-809-02	BOLT (M1.4X5), HEXAGON SOCKET	
805	1-698-729-11	MOTOR, DRUM (LOWER ROTOR)	
806	A-7049-495-A	DRUM ASSY, UPPER (DGR-89-R(1))(SC55) (COLOR MARK: GREEN, GREEN/RED, BLACK, BLACK/RED)	
806	A-7049-498-A	DRUM ASSY, UPPER (DGR-89-R(2))(SC55) (COLOR MARK: RED, RED/RED, BLUE, BLUE/RED)	
806	A-7049-461-A	DRUM ASSY, UPPER (DGR-80-R(1))(SC55E) (COLOR MARK: GREEN, GREEN/RED, BLACK, BLACK/RED)	
806	A-7049-464-A	DRUM ASSY, UPPER (DGR-80-R(2))(SC55E) (COLOR MARK: RED, RED/RED, BLUE, BLUE/RED)	
807	3-967-081-01	SCREW (M1.6X3)	
808	3-954-899-01	RAIL, T	
809	3-969-305-01	BASE, HOLD	
810	1-657-785-11	FP-248 FLEXIBLE BOARD	
811	3-940-892-01	NUT, HEXAGON	
812	3-947-503-01	SCREW (M1.4X2.5)	
813	3-954-907-01	SPRING, COMPRESSION	
814	2-626-645-11	SCREW (M1.7), WAVE	
815	A-7040-404-D	COASTER (T) BLOCK ASSY (D)	
816	3-331-007-21	WASHER	
817	X-3943-149-1	ARM ASSY, S	
818	A-7040-403-C	COASTER (S) BLOCK ASSY (D2)	
819	X-3943-150-1	ARM ASSY, T	
820	X-3943-146-3	ROLLER ASSY, TG3	
821	3-954-886-01	SPRING, COMPRESSION	
822	3-954-898-02	RAIL, S	
823	3-954-739-01	ROLLER, LS GUIDE	
824	3-728-091-01	WASHER, STOPPER	
825	3-969-301-01	GEAR, WHEEL	
826	3-969-302-01	GEAR (A)	
827	X-3946-020-1	HOLDER ASSY, MOTOR	
828	X-3943-151-2	SCREW ASSY, FITTING	
829	3-703-816-51	SCREW (M1.4X3.5), SPECIAL HEAD	
830	X-3945-656-1	BASE ASSY, DRUM	
831	3-967-080-02	SPRING, GROUND	
M901	A-7048-814-A	DRUM ASSY (DGH-89G-R)(SC55)	
M901	A-7048-816-A	DRUM ASSY (DGH-80F-R)(SC55E)	
M902	1-698-735-12	MOTOR, CAPSTAN	
M903	X-3946-019-1	MOTOR ASSY, L (LOADING)	

5-1-10. MECHANISM CHASSIS ASSEMBLY (2)

Note: The phase adjustment is needed to install 872 and 874, however the mode gear assembly has no difference between the TK and T2 mechanisms, be sure to refer to "3-23. MODE GEAR ASSEMBLY PHASE ADJUSTMENT" on page 6 in the "8 mm Video MECHANICAL ADJUSTMENT MANUAL VI TK MECHANISM Supplement-1" (9-973-446-81).


851
852
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858
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863
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861
853
864
865
874
869
866
870
867
871
872
869
not supplied
(FP-332)
873

Ref. No.	Part No.	Description	Remark
851	3-957-929-01	PULLEY, RELAY	
852	3-954-789-01	BELT, RELAY	
853	3-331-007-21	WASHER	
854	X-3943-123-1	GEAR ASSY, CONVERSION	
855	3-954-741-01	ARM, EJ	
856	3-578-254-00	RING, RETAINING, E1.2	
857	3-957-367-01	ROLLER, LS GUIDE (2)	
858	3-954-752-01	GEAR, LS	
859	3-728-103-11	SCREW (M1.4X1.6), SPECIAL HEAD	
* 860	3-954-744-01	RETAINER, GEAR	
861	3-954-747-01	GEAR (D)	
862	3-954-748-01	SLIDER, M	
863	X-3943-336-1	ARM ASSY (VA), PINCH RELEASE	
864	3-955-804-01	WASHER	
865	3-954-791-01	SPRING, TORSION COIL	
866	3-964-954-01	ARM (VA), MODE	
867	X-3943-126-1	ARM (2) ASSY, MODE	
869	3-954-742-03	ROLLER, LS	
870	3-954-750-01	GEAR (B)	
871	3-579-788-01	WASHER, STOPPER	
872	X-3943-124-1	GEAR ASSY, MODE	
873	A-7040-452-A	CHASSIS SUB BLOCK ASSY, MECHANISM	
874	3-954-746-01	GEAR (C)	

5-2. ELECTRICAL PARTS LIST

NOTE:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable

- SEMICONDUCTORS
  In each case, u: μ , for example:
  uA...: μA..., uPA...: μPA..., uPB...: μPB..., uPC...: μPC..., uPD...: μPD...
- CAPACITORS
  uF : μF
- COILS
  uH : μH
- Canadian model is abbreviated as CND.
- Hong Kong model is abbreviated as HK.
- Australian model is abbreviated as AUS.

Ref. No.	Part No.	Description			Remark
*	A-7066-854-A	CH-92 BOARD, COMPLETE (SERVICE)(SC55E)			
		***			
*	A-7092-994-A	CH-92 BOARD, COMPLETE (SERVICE)(SC55)			
		***			
		(Ref. No. 1,000 Series)			
		< CAPACITOR >			
C251	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C252	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C253	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C254	1-164-940-11	CERAMIC CHIP	0.0033uF	10%	16V
C255	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C256	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C258	1-104-752-11	TANTAL. CHIP	33uF	20%	6.3V
C259	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C260	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C261	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C262	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C263	1-115-156-11	CERAMIC CHIP	1uF		10V
C266	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C267	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C268	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C269	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C271	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C272	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C273	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C274	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C277	1-135-180-21	TANTALUM CHIP	3.3uF	20%	6.3V
C451	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C452	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C453	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C454	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C455	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C456	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C460	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C461	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C462	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C463	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C464	1-115-156-11	CERAMIC CHIP	1uF		10V
C465	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C467	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V
C468	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V
C1601	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C1602	1-164-346-11	CERAMIC CHIP	1uF		16V
C1604	1-135-214-21	TANTAL. CHIP	4.7uF	20%	20V
C1605	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C1608	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C1609	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C1612	1-164-866-11	CERAMIC CHIP	47PF	5%	16V
C1613	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C1615	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C1616	1-164-850-11	CERAMIC CHIP	18PF	5%	16V
C1617	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
C1618	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C1619	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
C1620	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1621	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C1622	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C1623	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1624	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1625	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1626	1-164-346-11	CERAMIC CHIP	1uF		16V
C1628	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1632	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C1633	1-135-214-21	TANTAL. CHIP	4.7uF	20%	20V
C1634	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1639	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1641	1-164-854-11	CERAMIC CHIP	15PF	5%	16V
C1642	1-164-854-11	CERAMIC CHIP	15PF	5%	16V
		< CONNECTOR >			
CN112	1-750-630-11	CONNECTOR, FFC/FPC (ZIF) 16P			
CN202	1-774-600-41	CONNECTOR, BOARD TO BOARD 70P			
CN251	1-573-360-21	CONNECTOR, FFC/FPC 20P			
CN451	1-766-342-21	CONNECTOR, FFC/FPC 12P			
		< DIODE >			
D1601	8-719-046-91	DIODE MA2S111			
D1602	8-713-102-28	DIODE 1T379-04-T8A			

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Ref. No.	Part No.	Description	Remark
		< FERRITE BEAD >	
FB1601	1-500-284-21	INDUCTOR, FERRITE BEAD	
FB1602	1-500-284-21	INDUCTOR, FERRITE BEAD	
		< IC >	
IC202	8-752-377-92	IC CXD2485R-T4	
IC203	8-752-073-11	IC CXA2006Q-T4	
IC251	8-759-337-41	IC NJM2902V(TE2)	
IC252	8-759-351-46	IC MPC17A34RVMEL	
IC253	8-759-337-41	IC NJM2902V(TE2)	
IC255	8-752-377-38	IC CXD2430N	
IC451	8-759-058-45	IC NJM3403AV	
IC452	8-759-080-34	IC TA75W01FU	
IC453	8-759-248-78	IC MB88102PFV-G-BND-ER	
IC454	8-759-234-77	IC TC4S66F	
IC455	8-759-234-77	IC TC4S66F	
		< COIL >	
L251	1-414-675-11	INDUCTOR 10uH	
L252	1-414-675-11	INDUCTOR 10uH	
L253	1-412-058-11	INDUCTOR CHIP 10uH	
L451	1-414-675-11	INDUCTOR 10uH	
L452	1-414-675-11	INDUCTOR 10uH	
L1601	1-414-675-11	INDUCTOR 10uH	
L1602	1-414-675-11	INDUCTOR 10uH	
L1603	1-414-675-11	INDUCTOR 10uH	
L1604	1-412-963-11	INDUCTOR 100uH	
L1606	1-412-955-11	INDUCTOR 22uH	
		< TRANSISTOR >	
Q251	8-729-425-64	TRANSISTOR 2SD2216-Q	
Q252	8-729-425-64	TRANSISTOR 2SD2216-Q	
Q253	8-729-425-50	TRANSISTOR 2SB1462-Q	
Q451	8-729-429-18	TRANSISTOR UN9213	
Q1601	8-729-429-18	TRANSISTOR UN9213	
Q1602	8-729-428-88	TRANSISTOR UN9113	
Q1603	8-729-428-88	TRANSISTOR UN9113	
Q1604	8-729-429-18	TRANSISTOR UN9213	
Q1605	8-729-425-64	TRANSISTOR 2SD2216-Q	
Q1607	8-729-425-50	TRANSISTOR 2SB1462-Q	
		< RESISTOR >	
R251	1-218-983-11	METAL GLAZE 330K 5% 1/16W	
R252	1-218-980-11	METAL GLAZE 180K 5% 1/16W	
R253	1-218-962-11	METAL GLAZE 5.6K 5% 1/16W	
R254	1-216-797-11	METAL CHIP 10 5% 1/16W	
R255	1-218-977-11	METAL GLAZE 100K 5% 1/16W	
R256	1-218-957-11	METAL GLAZE 2.2K 5% 1/16W	
R257	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R258	1-218-977-11	METAL GLAZE 100K 5% 1/16W	

Ref. No.	Part No.	Description	Remark
R259	1-218-969-11	METAL GLAZE 22K 5% 1/16W	
R260	1-218-968-11	METAL GLAZE 18K 5% 1/16W	
R261	1-218-947-11	METAL GLAZE 330 5% 1/16W	
R262	1-218-969-11	METAL GLAZE 22K 5% 1/16W	
R263	1-218-957-11	METAL GLAZE 2.2K 5% 1/16W	
R264	1-218-977-11	METAL GLAZE 100K 5% 1/16W	
R265	1-218-968-11	METAL GLAZE 18K 5% 1/16W	
R266	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R267	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R268	1-218-969-11	METAL GLAZE 22K 5% 1/16W	
R269	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R270	1-218-975-11	METAL GLAZE 68K 5% 1/16W	
R271	1-218-980-11	METAL GLAZE 180K 5% 1/16W	
R272	1-218-977-11	METAL GLAZE 100K 5% 1/16W	
R274	1-218-975-11	METAL GLAZE 68K 5% 1/16W	
R275	1-218-961-11	METAL GLAZE 4.7K 5% 1/16W	
R276	1-218-889-11	METAL CHIP 56K 0.50% 1/16W	
R277	1-218-879-11	METAL CHIP 22K 0.50% 1/16W	
R451	1-218-969-11	METAL GLAZE 22K 5% 1/16W	
R452	1-218-969-11	METAL GLAZE 22K 5% 1/16W	
R453	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R454	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R455	1-218-911-11	METAL CHIP 470K 0.50% 1/16W	
R456	1-218-911-11	METAL CHIP 470K 0.50% 1/16W	
R457	1-218-982-11	METAL GLAZE 270K 5% 1/16W	
R458	1-218-982-11	METAL GLAZE 270K 5% 1/16W	
R459	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R460	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R462	1-218-967-11	METAL GLAZE 15K 5% 1/16W	
R463	1-218-990-11	CONDUCTOR, CHIP (1005)	
R464	1-218-990-11	CONDUCTOR, CHIP (1005)	
R467	1-218-911-11	METAL CHIP 470K 0.50% 1/16W	
R468	1-218-911-11	METAL CHIP 470K 0.50% 1/16W	
R469	1-218-969-11	METAL GLAZE 22K 5% 1/16W	
R470	1-218-969-11	METAL GLAZE 22K 5% 1/16W	
R471	1-218-969-11	METAL GLAZE 22K 5% 1/16W	
R472	1-218-969-11	METAL GLAZE 22K 5% 1/16W	
R474	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R1601	1-218-977-11	METAL GLAZE 100K 5% 1/16W	
R1602	1-218-989-11	METAL GLAZE 1M 5% 1/16W	
R1603	1-218-977-11	METAL GLAZE 100K 5% 1/16W	
R1616	1-218-985-11	METAL GLAZE 470K 5% 1/16W	
R1620	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R1627	1-218-935-11	METAL GLAZE 33 5% 1/16W	
R1628	1-218-935-11	METAL GLAZE 33 5% 1/16W	
R1631	1-216-864-11	METAL CHIP 0 5% 1/16W	
R1633	1-216-295-91	CONDUCTOR, CHIP (2012)	
R1634	1-218-990-11	CONDUCTOR, CHIP (1005)	
R1635	1-218-941-11	METAL GLAZE 100 5% 1/16W	
R1636	1-218-941-11	METAL GLAZE 100 5% 1/16W	

Ref.No.	Part No.	Description	Remark
R1637	1-218-990-11	CONDUCTOR, CHIP (1005)	
R1638	1-218-959-11	METAL GLAZE 3.3K 5% 1/16W	
R1639	1-218-957-11	METAL GLAZE 2.2K 5% 1/16W	
R1640	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R1643	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R1644	1-218-957-11	METAL GLAZE 2.2K 5% 1/16W	
R1645	1-218-990-11	CONDUCTOR, CHIP (1005)	
		< SWITCH >	
S1601	1-572-467-21	SWITCH, PUSH (1 KEY)(OPEN(CASSETTE))	
		< VIBRATOR >	
X1601	1-760-320-11	VIBRATOR, CRYSTAL (28.636MHz)(SC55)	
X1601	1-760-321-11	VIBRATOR, CRYSTAL (28.375MHz)(SC55E)	

* A-7072-586-A EN-18 BOARD, COMPLETE
****
(Ref. No. 8,000 Series)

Ref.No.	Part No.	Description	Remark
		< BATTERY >	
BT751	1-694-075-11	TERMINAL BOARD, BATTERY	
		< CONNECTOR >	
CN751	1-770-627-21	PIN, CONNECTOR 10P	
CN752	1-766-759-11	CONNECTOR, FFC/FPC 4P	

* A-7072-567-A FP-316 BOARD, COMPLETE
(SENSOR FLEXIBLE BOARD COMPLETE)
(Including FP-318 BOARD)
****
(Ref. No. 5,000 Series)

Ref.No.	Part No.	Description	Remark
	3-732-046-01	HOLDER, LED	
	3-954-887-01	HOLDER (T), SENSOR	
	3-969-308-02	HOLDER (S2), SENSOR	
		< DIODE >	
D001	8-719-988-42	DIODE GL453S	
		< HALL ELEMENT >	
H001	8-719-033-37	ELEMENT, HALL HW-105C	
H002	8-719-033-37	ELEMENT, HALL HW-105C	
		< TRANSISTOR >	
Q001	8-729-907-25	TRANSISTOR PT4850F	
Q002	8-729-907-25	TRANSISTOR PT4850F	

Ref.No.	Part No.	Description	Remark
		< RESISTOR >	
R001	1-216-815-11	METAL CHIP 330 5% 1/16W	
R002	1-216-815-11	METAL CHIP 330 5% 1/16W	
R003	1-216-816-11	METAL CHIP 390 5% 1/16W	
R004	1-216-816-11	METAL CHIP 390 5% 1/16W	
		< SWITCH >	
S001	1-572-288-11	SWITCH, PUSH (CC LOCK)	
S002	1-692-614-11	SWITCH, PUSH (3 KEY) (Hi8 MP/REC PROOF/ME/MP)	

1-660-653-11 FP-340 BOARD
****
(IC351 is not included to the mounted board)

Ref.No.	Part No.	Description	Remark
		< IC >	
IC351	A-7030-659-A	CCD BLOCK ASSY (071 SERVICE)(CCD IMAGER) (SC55E)	

* A-7072-584-A FP-342 BOARD, COMPLETE
****
(Ref. No. 4,000 Series)

Ref.No.	Part No.	Description	Remark
		< CONNECTOR >	
CNJ751	1-566-850-31	CONNECTOR, (S) TERMINAL 4P (S VIDEO)	
		< JACK >	
J751	1-691-737-11	JACK (SMALL TYPE)(MIC (PLUG IN POWER))	
J752	1-695-514-21	JACK (SMALL TYPE) 1P (∩)	
J753	1-778-040-11	JACK, SMALL TYPE (AUDIO/VIDEO)	
		< RESISTOR >	
R752	1-216-059-00	METAL CHIP 2.7K 5% 1/10W	
R753	1-216-055-00	METAL CHIP 1.8K 5% 1/10W	
		< SWITCH >	
S752	1-762-333-21	SWITCH, TACTILE (TIME)	
S753	1-762-334-21	SWITCH, TACTILE (FADER)	
S754	1-762-333-21	SWITCH, TACTILE (BACK LIGHT)	
S755	1-762-333-21	SWITCH, TACTILE (DATE)	

Be sure to read "Note on the CCD Imager replacement" on page 4–8 when changing the CCD imager.

Ref. No.	Part No.	Description	Remark
*	A-7072-583-A	FP-345 BOARD, COMPLETE	
		***********************	
		(Ref. No. 7,000 Series)	
		< IC >	
IC761	8-759-357-04	IC LT280A	
		< RESISTOR >	
R761	1-216-083-00	METAL CHIP 27K 5% 1/10W	
R762	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R764	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R765	1-216-059-00	METAL CHIP 2.7K 5% 1/10W	
R766	1-216-055-00	METAL CHIP 1.8K 5% 1/10W	
		< SWITCH >	
S761	1-762-333-21	SWITCH, TACTILE (DISPLAY)	
S762	1-762-333-21	SWITCH, TACTILE (EXECUTE)	
S763	1-762-333-21	SWITCH, TACTILE (COUNTER RESET)	
S764	1-762-333-21	SWITCH, TACTILE (↓)	
S765	1-762-333-21	SWITCH, TACTILE (↑)	
S766	1-762-333-21	SWITCH, TACTILE (MENU)	

Ref. No.	Part No.	Description	Remark
*	A-7072-587-A	FP-353 BOARD, COMPLETE	
		***********************	
		(Ref. No. 6,000 Series)	
		< DIODE >	
D731	8-719-026-34	DIODE CL-170UR-CD	
		< IC >	
IC731	8-749-012-25	IC RS-170-TU (🅁)	
		< RESISTOR >	
R731	1-216-045-00	METAL CHIP 680 5% 1/10W	

Ref. No.	Part No.	Description	Remark
*	A-7072-579-A	FP-354 BOARD, COMPLETE	
		***********************	
		(Ref. No. 1,000 Series)	
		< CAPACITOR >	
C791	1-163-038-91	CERAMIC CHIP 0.1uF 25V	
C792	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	
C793	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	
C794	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	
		< DIODE >	
D791	8-719-033-13	DIODE CL-170Y-CD-T (BATT)	
D792	8-719-026-34	DIODE CL-170UR-CD (RECORDING)	
		< COIL >	
L791	1-414-078-11	INDUCTOR 10uH	
		< RESISTOR >	
R791	1-216-049-91	METAL GLAZE 1K 5% 1/10W	
R792	1-216-295-91	CONDUCTOR, CHIP (2012)	
		< SENSOR >	
SE791	1-801-216-31	SENSOR, ANGULAR VELOCITY (PITCH)	
SE792	1-801-216-41	SENSOR, ANGULAR VELOCITY (YAW)	

Ref. No.	Part No.	Description	Remark
*	A-7072-588-A	FP-357 BOARD, COMPLETE	
		***********************	
		(Ref. No. 4,000 Series)	
		< CONNECTOR >	
CN721	1-774-857-11	CONNECTOR, SQUARE TYPE 26P	
CN723	1-766-759-11	CONNECTOR, FFC/FPC 4P	

Ref. No.	Part No.	Description	Remark
	1-660-664-11	FP-358 FLEXIBLE BOARD	
		*********************	
		(Ref. No. 4,000 Series)	
		< BATTERY >	
BT721	1-528-694-11	BATTERY, V/L RICHARGEABL	
		< CONNECTOR >	
* CN722	1-770-619-11	PIN, CONNECTOR 2P	

Ref. No.	Part No.	Description	Remark
*	A-7072-706-A	KY-33 BOARD, COMPLETE	
		**********************	
		(Ref. No. 6,000 Series)	
*	3-969-467-01	HOLDER, LCD	
		< CAPACITOR >	
C701	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
		< CONNECTOR >	
CN702	1-774-927-11	CONNECTOR, RUBBER 4P	
CN703	1-774-927-11	CONNECTOR, RUBBER 4P	

Ref. No.	Part No.	Description	Remark
		< DIODE >	
D701	8-719-059-57	DIODE MAZJ082DFLSO	
D702	8-719-059-57	DIODE MAZJ082DFLSO	
D703	8-719-059-57	DIODE MAZJ082DFLSO	
D704	8-719-059-57	DIODE MAZJ082DFLSO	
D705	8-719-975-06	LED CL-70G-CD	
D706	8-719-059-50	DIODE MA3J142DOLSO	
		< IC >	
IC701	8-759-073-95	IC SED1510FOC	
		< LIQUID CRYSTAL DISPLAY >	
LCD902	1-801-241-21	DISPLAY PANEL, LIQUID CRYSTAL	
		< RESISTOR >	
R701	1-216-810-11	METAL CHIP 120 5% 1/16W	
R702	1-216-824-11	METAL CHIP 1.8K 5% 1/16W	
R703	1-216-824-11	METAL CHIP 1.8K 5% 1/16W	
R704	1-216-826-11	METAL CHIP 2.7K 5% 1/16W	
R705	1-216-826-11	METAL CHIP 2.7K 5% 1/16W	
R706	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R707	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R708	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R709	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R710	1-216-838-11	METAL CHIP 27K 5% 1/16W	
R711	1-216-824-11	METAL CHIP 1.8K 5% 1/16W	
R712	1-216-826-11	METAL CHIP 2.7K 5% 1/16W	
R713	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R714	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R715	1-216-838-11	METAL CHIP 27K 5% 1/16W	
R717	1-216-824-11	METAL CHIP 1.8K 5% 1/16W	
R718	1-216-826-11	METAL CHIP 2.7K 5% 1/16W	
R719	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R720	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R721	1-216-838-11	METAL CHIP 27K 5% 1/16W	
R722	1-216-855-11	METAL CHIP 680K 5% 1/16W	
R723	1-216-838-11	METAL CHIP 27K 5% 1/16W	
		< SWITCH >	
S701	1-762-333-21	SWITCH, TACTILE (❚❚ PAUSE/FOCUS LOCK)	
S702	1-762-333-21	SWITCH, TACTILE (■ STOP/TITLE)	
S703	1-762-333-21	SWITCH, TACTILE (◀◀ REW)	
S704	1-762-333-21	SWITCH, TACTILE (▶▶ FF)	
S705	1-762-333-21	SWITCH, TACTILE (▶ PLAY)	
S706	1-762-333-21	SWITCH, TACTILE (● REC/EFFECT)	
S707	1-762-333-21	SWITCH, TACTILE (VOLUME +)	
S708	1-762-333-21	SWITCH, TACTILE (END SEARCH)	
S709	1-762-333-21	SWITCH, TACTILE (VOLUME -)	
S710	1-762-333-21	SWITCH, TACTILE (LCD BRIGHT +)	

Ref. No.	Part No.	Description	Remark
S711	1-762-333-21	SWITCH, TACTILE (● REC/16:9 WIDE)	
S712	1-762-442-41	SWITCH, ROTARY (PROGRAM AE)	
S713	1-762-333-21	SWITCH, TACTILE (LCD BRIGHT)	
S714	1-692-605-11	SWITCH, SLIDE (START/STOP MODE)	
		< FLEXIBLE BOARD >	
W701	1-660-656-11	FP-344 FLEXIBLE BOARD	
W702	1-660-659-11	FP-348 FLEXIBLE BOARD	

Ref. No.	Part No.	Description	Remark
*	A-7072-803-A	MA-260 BOARD, COMPLETE (SC55E) ******************************	
*	A-7072-833-A	MA-260 BOARD, COMPLETE (SC55) *****************************	
			(Ref. No. 6,000 Series)
		< CAPACITOR >	
C501	1-164-941-11	CERAMIC CHIP 0.0047uF 10% 16V	
C502	1-164-941-11	CERAMIC CHIP 0.0047uF 10% 16V	
C505	1-135-201-11	TANTALUM CHIP 10uF 20% 4V	
C506	1-135-201-11	TANTALUM CHIP 10uF 20% 4V	
C507	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C508	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C509	1-107-819-11	CERAMIC CHIP 0.022uF 10% 16V	
C510	1-107-819-11	CERAMIC CHIP 0.022uF 10% 16V	
C511	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	
C512	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	
C513	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C514	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C515	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V	
C516	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V	
C517	1-107-819-11	CERAMIC CHIP 0.022uF 10% 16V	
C518	1-107-819-11	CERAMIC CHIP 0.022uF 10% 16V	
C519	1-164-245-11	CERAMIC CHIP 0.015uF 10% 25V	
C520	1-164-245-11	CERAMIC CHIP 0.015uF 10% 25V	
C521	1-107-819-11	CERAMIC CHIP 0.022uF 10% 16V	
C522	1-107-819-11	CERAMIC CHIP 0.022uF 10% 16V	
C525	1-107-819-11	CERAMIC CHIP 0.022uF 10% 16V	
C526	1-107-819-11	CERAMIC CHIP 0.022uF 10% 16V	
C527	1-164-939-11	CERAMIC CHIP 0.0022uF 10% 16V	
C528	1-164-939-11	CERAMIC CHIP 0.0022uF 10% 16V	
C529	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V	
C530	1-107-820-11	CERAMIC CHIP 0.1uF 16V	
C531	1-104-847-11	TANTAL. CHIP 22uF 20% 4V	
C532	1-107-820-11	CERAMIC CHIP 0.1uF 16V	
C533	1-107-820-11	CERAMIC CHIP 0.1uF 16V	
		< CONNECTOR >	
CN501	1-750-352-11	CONNECTOR, FFC/FPC (ZIF) 14P	
CN502	1-770-621-21	PIN, CONNECTOR 4P	

Ref. No.	Part No.	Description				Remark
		< IC >				
IC501	8-759-327-34	IC BA7781K-E2				
		< TRANSISTOR >				
Q501	8-729-427-61	TRANSISTOR XP4210-TXE				
		< RESISTOR >				
R501	1-218-990-11	CONDUCTOR, CHIP (1005)				
R502	1-218-990-11	CONDUCTOR, CHIP (1005)				
R503	1-218-957-11	METAL GLAZE	2.2K	5%	1/16W	
R504	1-218-957-11	METAL GLAZE	2.2K	5%	1/16W	
R505	1-218-963-11	METAL GLAZE	6.8K	5%	1/16W	
R506	1-218-963-11	METAL GLAZE	6.8K	5%	1/16W	
R507	1-218-953-11	METAL GLAZE	1K	5%	1/16W	
R508	1-218-953-11	METAL GLAZE	1K	5%	1/16W	
R509	1-218-965-11	METAL GLAZE	10K	5%	1/16W	
R510	1-218-965-11	METAL GLAZE	10K	5%	1/16W	
R511	1-218-964-11	METAL GLAZE	8.2K	5%	1/16W	
R512	1-218-964-11	METAL GLAZE	8.2K	5%	1/16W	
R513	1-218-990-11	CONDUCTOR, CHIP (1005)				
R514	1-218-990-11	CONDUCTOR, CHIP (1005)				
R515	1-218-990-11	CONDUCTOR, CHIP (1005)				
R516	1-218-990-11	CONDUCTOR, CHIP (1005)				
R517	1-218-963-11	METAL GLAZE	6.8K	5%	1/16W	
R518	1-218-963-11	METAL GLAZE	6.8K	5%	1/16W	
R519	1-218-967-11	METAL GLAZE	15K	5%	1/16W	
R520	1-218-967-11	METAL GLAZE	15K	5%	1/16W	
R521	1-218-953-11	METAL GLAZE	1K	5%	1/16W	
R522	1-218-953-11	METAL GLAZE	1K	5%	1/16W	
R523	1-218-974-11	METAL GLAZE	56K	5%	1/16W	
R524	1-218-974-11	METAL GLAZE	56K	5%	1/16W	
R525	1-218-965-11	METAL GLAZE	10K	5%	1/16W	
R526	1-218-965-11	METAL GLAZE	10K	5%	1/16W	
R527	1-218-965-11	METAL GLAZE	10K	5%	1/16W	

Ref. No.	Part No.	Description				Remark
*	A-7066-855-A	PD-64 BOARD, COMPLETE (SERVICE)(SC55E)				
		***************************************				
*	A-7092-901-A	PD-64 BOARD, COMPLETE (SERVICE)(SC55)				
		**************************************				
		(Ref. No. 7,000 Series)				
		< CAPACITOR >				
C801	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C802	1-107-685-11	TANTAL. CHIP	15uF	20%	6.3V	
C803	1-135-333-11	TANTAL. CHIP	1uF	20%	16V	
C804	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C807	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C809	1-164-363-11	CERAMIC CHIP	560PF	5%	50V	
C810	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C811	1-164-937-11	CERAMIC CHIP	1000PF	10%	16V	
C813	1-107-685-11	TANTAL. CHIP	15uF	20%	6.3V	
C818	1-164-872-11	CERAMIC CHIP	82PF	5%	16V	
C819	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C820	1-164-868-11	CERAMIC CHIP	56PF	5%	16V	
C821	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C823	1-164-850-11	CERAMIC CHIP	18PF	5%	16V	
C824	1-135-333-11	TANTAL. CHIP	1uF	20%	16V	
C826	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C827	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C828	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C829	1-104-752-11	TANTAL. CHIP	33uF	20%	6.3V	
C830	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V	
C831	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V	
C832	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C833	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C834	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C835	1-164-936-11	CERAMIC CHIP	680PF	10%	16V	
C836	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C837	1-164-858-11	CERAMIC CHIP	22PF	5%	16V	
C838	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C839	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C841	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C842	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C843	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C844	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C845	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V	
C846	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C847	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C848	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C849	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C851	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C852	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C853	1-164-864-11	CERAMIC CHIP	39PF	5%	16V	
C854	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C855	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C856	1-107-682-11	CERAMIC CHIP	1uF	20%	6.3V	
C857	1-107-682-11	CERAMIC CHIP	1uF	20%	6.3V	
C858	1-107-682-11	CERAMIC CHIP	1uF	20%	6.3V	
C859	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C860	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C862	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C863	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C864	1-135-333-11	TANTAL. CHIP	1uF	20%	16V	
C865	1-104-852-11	TANTAL. CHIP	22uF	20%	10V	
C867	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C868	1-165-319-11	CERAMIC CHIP	0.1uF		50V	
C869	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	

Ref.No.	Part No.	Description			Remark
C870	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C871	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C872	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C873	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C875	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C951	1-104-914-11	TANTAL. CHIP	22uF	20%	16V
C952	1-135-211-11	TANTAL. CHIP	6.8uF	20%	6.3V
C953	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C954	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C955	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C956	1-164-850-11	CERAMIC CHIP	18PF	5%	16V
C957	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C958	1-164-860-11	CERAMIC CHIP	27PF	5%	16V
C959	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C960	1-104-911-11	TANTAL. CHIP	33uF	20%	10V
C961	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C963	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C965	1-164-664-11	CERAMIC CHIP	0.033uF	10%	50V
⚠C967	1-113-521-11	CERAMIC CHIP	12PF	10%	3KV
		< CONNECTOR >			
CN801	1-774-929-21	CONNECTOR, FFC/FPC 39P			
CN802	1-573-364-11	CONNECTOR, FFC/FPC 24P			
CN951	1-764-709-11	CONNECTOR, FFC/FPC 10P			
CN991	1-774-631-21	CONNECTOR, FFC/FPC 6P			
		< DIODE >			
D801	8-719-404-49	DIODE MA111			
D802	8-713-102-80	DIODE 1T369-01-T8A			
D803	8-713-102-80	DIODE 1T369-01-T8A			
D804	8-713-102-80	DIODE 1T369-01-T8A			
D805	8-719-420-51	DIODE MA729			
D954	8-719-404-49	DIODE MA111			
		< IC >			
IC801	8-759-368-60	IC CM7012L3-T4			
IC802	8-759-359-49	IC NJM3414AV(TE2)			
IC804	8-759-364-03	IC MB88146PFV-G-BND-ER			
IC805	8-752-070-03	IC CXA1785AR-T4			
IC806	8-759-082-60	IC TC7S66FU			
IC808	8-759-079-52	IC TC74VHC08FS(EL)			
IC951	8-759-521-35	IC TL5001CD-E2			
IC952	8-759-075-70	IC TA75S393F			
		< COIL >			
L801	1-412-031-11	INDUCTOR CHIP 47uH			
L802	1-412-030-11	INDUCTOR CHIP 22uH			
L803	1-412-954-11	INDUCTOR 18uH			
L804	1-216-295-91	CONDUCTOR, CHIP (2012)			
L805	1-412-963-11	INDUCTOR 100uH			

Ref.No.	Part No.	Description			Remark
L806	1-412-962-11	INDUCTOR 82uH			
L807	1-412-030-11	INDUCTOR CHIP 22uH			
L808	1-412-960-21	INDUCTOR 56uH			
L809	1-412-956-21	INDUCTOR 27uH			
L810	1-414-675-11	INDUCTOR 10uH			
L951	1-412-028-11	INDUCTOR CHIP 4.7uH			
L952	1-406-824-11	COIL, CHOKE 22uH			
L953	1-406-924-11	COIL, CHOKE 150uH			
		< TRANSISTOR >			
Q801	8-729-429-18	TRANSISTOR UN9213			
Q805	8-729-429-18	TRANSISTOR UN9213			
Q806	8-729-429-18	TRANSISTOR UN9213			
Q809	8-729-425-64	TRANSISTOR 2SD2216-Q			
Q810	8-729-427-46	TRANSISTOR XP4213			
Q811	8-729-425-50	TRANSISTOR 2SB1462-Q			
Q812	8-729-429-18	TRANSISTOR UN9213			
Q813	8-729-429-18	TRANSISTOR UN9213			
Q814	8-729-425-64	TRANSISTOR 2SD2216-Q			
Q815	8-729-429-18	TRANSISTOR UN9213			
Q816	8-729-425-50	TRANSISTOR 2SB1462-Q			
Q820	8-729-429-18	TRANSISTOR UN9213			
Q821	8-729-429-18	TRANSISTOR UN9213			
Q951	8-729-037-75	TRANSISTOR UN9214J-(TX)			
Q952	8-729-037-60	TRANSISTOR UN9112J-(TX)			
Q953	8-729-429-18	TRANSISTOR UN9213			
Q954	8-729-425-64	TRANSISTOR 2SD2216-Q			
Q955	8-729-823-84	TRANSISTOR FP102			
Q956	8-729-028-36	TRANSISTOR FX507-TL1			
Q957	8-729-037-60	TRANSISTOR UN9112J-(TX)			
Q958	8-729-429-18	TRANSISTOR UN9213			
Q959	8-729-429-18	TRANSISTOR UN9213			
Q960	8-729-429-18	TRANSISTOR UN9213			
Q961	8-729-425-64	TRANSISTOR 2SD2216-Q			
Q962	8-729-425-64	TRANSISTOR 2SD2216-Q			
		< RESISTOR >			
R801	1-218-975-11	METAL GLAZE	68K	5%	1/16W
R802	1-218-975-11	METAL GLAZE	68K	5%	1/16W
R805	1-218-973-11	METAL GLAZE	47K	5%	1/16W
R806	1-218-973-11	METAL GLAZE	47K	5%	1/16W
R807	1-218-973-11	METAL GLAZE	47K	5%	1/16W
R808	1-218-977-11	METAL GLAZE	100K	5%	1/16W
R809	1-218-973-11	METAL GLAZE	47K	5%	1/16W
R810	1-218-971-11	METAL GLAZE	33K	5%	1/16W
R811	1-218-960-11	METAL GLAZE	3.9K	5%	1/16W
R812	1-218-973-11	METAL GLAZE	47K	5%	1/16W
R813	1-218-989-11	METAL GLAZE	1M	5%	1/16W
R814	1-218-975-11	METAL GLAZE	68K	5%	1/16W
R815	1-218-961-11	METAL GLAZE	4.7K	5%	1/16W
R817	1-218-975-11	METAL GLAZE	68K	5%	1/16W

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

Ref.No.	Part No.	Description	Remark
R819	1-218-961-11	METAL GLAZE 4.7K 5% 1/16W	
R820	1-218-975-11	METAL GLAZE 68K 5% 1/16W	
R821	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R822	1-218-989-11	METAL GLAZE 1M 5% 1/16W	
R824	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R825	1-218-969-11	METAL GLAZE 22K 5% 1/16W	
R826	1-218-947-11	METAL GLAZE 330 5% 1/16W	
R827	1-218-948-11	METAL GLAZE 390 5% 1/16W	
R833	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R837	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R838	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R840	1-218-989-11	METAL GLAZE 1M 5% 1/16W	
R841	1-218-957-11	METAL GLAZE 2.2K 5% 1/16W	
R844	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R845	1-218-949-11	METAL GLAZE 470 5% 1/16W	
R846	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R847	1-218-949-11	METAL GLAZE 470 5% 1/16W	
R848	1-218-972-11	METAL GLAZE 39K 5% 1/16W	
R849	1-218-970-11	METAL GLAZE 27K 5% 1/16W	
R850	1-218-951-11	METAL GLAZE 680 5% 1/16W	
R851	1-218-970-11	METAL GLAZE 27K 5% 1/16W	
R853	1-218-971-11	METAL GLAZE 33K 5% 1/16W	
R857	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R858	1-218-957-11	METAL GLAZE 2.2K 5% 1/16W	
R859	1-218-969-11	METAL GLAZE 22K 5% 1/16W	
R860	1-218-977-11	METAL GLAZE 100K 5% 1/16W	
R861	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R862	1-218-986-11	METAL GLAZE 560K 5% 1/16W	
R863	1-218-877-11	METAL CHIP 18K 0.50% 1/16W	
R864	1-218-974-11	METAL GLAZE 56K 5% 1/16W	
R865	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R866	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R868	1-218-981-11	METAL GLAZE 220K 5% 1/16W	
R869	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R870	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R872	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R875	1-218-983-11	METAL GLAZE 330K 5% 1/16W	
R877	1-219-570-11	METAL GLAZE 10M 5% 1/16W	
R878	1-218-975-11	METAL GLAZE 68K 5% 1/16W	
R881	1-218-972-11	METAL GLAZE 39K 5% 1/16W	
R882	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R884	1-218-975-11	METAL GLAZE 68K 5% 1/16W	
R885	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R886	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R888	1-218-970-11	METAL GLAZE 27K 5% 1/16W	
R889	1-218-971-11	METAL GLAZE 33K 5% 1/16W	
R893	1-218-972-11	METAL GLAZE 39K 5% 1/16W	
R894	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R896	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R897	1-218-973-11	METAL GLAZE 47K 5% 1/16W	

Ref.No.	Part No.	Description	Remark
R898	1-218-969-11	METAL GLAZE 22K 5% 1/16W	
R899	1-218-969-11	METAL GLAZE 22K 5% 1/16W	
R900	1-218-989-11	METAL GLAZE 1M 5% 1/16W	
R902	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R903	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R904	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R905	1-218-949-11	METAL GLAZE 470 5% 1/16W	
R906	1-218-989-11	METAL GLAZE 1M 5% 1/16W	
R908	1-218-969-11	METAL GLAZE 22K 5% 1/16W	
R909	1-218-941-11	METAL GLAZE 100 5% 1/16W	
R910	1-218-941-11	METAL GLAZE 100 5% 1/16W	
R911	1-218-941-11	METAL GLAZE 100 5% 1/16W	
R912	1-218-961-11	METAL GLAZE 4.7K 5% 1/16W	
R913	1-218-990-11	CONDUCTOR, CHIP (1005)	
R914	1-218-969-11	METAL GLAZE 22K 5% 1/16W	
R915	1-218-975-11	METAL GLAZE 68K 5% 1/16W	
R916	1-218-970-11	METAL GLAZE 27K 5% 1/16W	
R917	1-218-877-11	METAL CHIP 18K 0.50% 1/16W	
R918	1-218-877-11	METAL CHIP 18K 0.50% 1/16W	
R919	1-218-885-11	METAL CHIP 39K 0.50% 1/16W	
R920	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R922	1-218-885-11	METAL CHIP 39K 0.50% 1/16W	
R925	1-218-972-11	METAL GLAZE 39K 5% 1/16W	
R926	1-218-971-11	METAL GLAZE 33K 5% 1/16W	
R927	1-218-977-11	METAL GLAZE 100K 5% 1/16W	
R928	1-218-990-11	CONDUCTOR, CHIP (1005)	
R929	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R930	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R933	1-218-969-11	METAL GLAZE 22K 5% 1/16W	
R938	1-218-969-11	METAL GLAZE 22K 5% 1/16W	
R939	1-218-971-11	METAL GLAZE 33K 5% 1/16W	
R940	1-218-971-11	METAL GLAZE 33K 5% 1/16W	
R943	1-218-962-11	METAL GLAZE 5.6K 5% 1/16W	
R945	1-218-969-11	METAL GLAZE 22K 5% 1/16W	
R946	1-218-990-11	CONDUCTOR, CHIP (1005)	
R951	1-218-867-11	METAL CHIP 6.8K 0.50% 1/16W	
R952	1-218-881-11	METAL CHIP 27K 0.50% 1/16W	
R953	1-218-950-11	METAL GLAZE 560 5% 1/16W	
R954	1-218-969-11	METAL GLAZE 22K 5% 1/16W	
R955	1-218-950-11	METAL GLAZE 560 5% 1/16W	
R956	1-218-897-11	METAL CHIP 120K 0.50% 1/16W	
R957	1-218-961-11	METAL GLAZE 4.7K 5% 1/16W	
R958	1-218-853-11	METAL CHIP 1.8K 0.50% 1/16W	
R959	1-218-867-11	METAL CHIP 6.8K 0.50% 1/16W	
R960	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R961	1-218-859-11	METAL CHIP 3.3K 0.50% 1/16W	
R962	1-218-961-11	METAL GLAZE 4.7K 5% 1/16W	
R964	1-218-990-11	CONDUCTOR, CHIP (1005)	
R965	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R966	1-216-059-00	METAL CHIP 2.7K 5% 1/10W	

Ref. No.	Part No.	Description	Remark
R967	1-218-977-11	METAL GLAZE 100K 5% 1/16W	
R968	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R969	1-216-059-00	METAL CHIP 2.7K 5% 1/10W	
R970	1-218-969-11	METAL GLAZE 22K 5% 1/16W	
R971	1-218-952-11	METAL GLAZE 820 5% 1/16W	
R972	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R973	1-218-955-11	METAL GLAZE 1.5K 5% 1/16W	
R974	1-218-955-11	METAL GLAZE 1.5K 5% 1/16W	
R975	1-216-810-11	METAL CHIP 120 5% 1/16W	
R976	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R977	1-218-990-11	CONDUCTOR, CHIP (1005)	
R991	1-216-864-11	METAL CHIP 0 5% 1/16W	
R992	1-218-956-11	METAL GLAZE 1.8K 5% 1/16W	
R993	1-218-973-11	METAL GLAZE 47K 5% 1/16W	

< SWITCH >

Ref. No.	Part No.	Description	Remark
S991	1-572-688-11	SWITCH, PUSH (1 KEY)(LCD REVERSE)	

< TRANSFORMER >

Ref. No.	Part No.	Description	Remark
⚠T951	1-429-507-11	TRANSFORMER, INVERTER	

< VIBRATOR >

Ref. No.	Part No.	Description	Remark
X801	1-579-661-21	OSCILLATOR, CRYSTAL (4.43MHz)	

* A-7072-577-A SL-54 BOARD, COMPLETE

****

(Ref. No. 5,000 Series)

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
CN741	1-766-345-21	CONNECTOR, FFC/FPC 15P	
CN742	1-766-342-21	CONNECTOR, FFC/FPC 12P	
CN743	1-766-342-21	CONNECTOR, FFC/FPC 12P	
CN744	1-750-347-21	CONNECTOR, FFC/FPC (ZIF) 7P	

* A-7066-853-A VA-96 BOARD, COMPLETE (SERVICE)(SC55E)

****

* A-7092-900-A VA-96 BOARD, COMPLETE (SERVICE)(SC55)

****

(Ref. No. 3,000 Series)

< CAPACITOR >

Ref. No.	Part No.	Description	Remark
C201	1-164-005-11	CERAMIC CHIP 0.47uF 25V	
C202	1-165-319-11	CERAMIC CHIP 0.1uF 50V	
C203	1-165-319-11	CERAMIC CHIP 0.1uF 50V	
C204	1-165-319-11	CERAMIC CHIP 0.1uF 50V	
C205	1-107-682-11	CERAMIC CHIP 1uF 10% 16V	
C206	1-109-994-11	CERAMIC CHIP 2.2uF 10% 10V	
C207	1-135-177-21	TANTALUM CHIP 1uF 20% 20V	
C209	1-104-851-11	TANTAL. CHIP 10uF 20% 10V	
C211	1-115-169-11	TANTALUM 10uF 20% 6.3V	
C212	1-115-169-11	TANTALUM 10uF 20% 6.3V	
C213	1-115-169-11	TANTALUM 10uF 20% 6.3V	
C214	1-115-169-11	TANTALUM 10uF 20% 6.3V	
C215	1-115-169-11	TANTALUM 10uF 20% 6.3V	
C216	1-115-169-11	TANTALUM 10uF 20% 6.3V	
C217	1-115-169-11	TANTALUM 10uF 20% 6.3V	
C218	1-115-169-11	TANTALUM 10uF 20% 6.3V	
C219	1-164-941-11	CERAMIC CHIP 0.0047uF 10% 16V	
C300	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	
C301	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	
C302	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	
C303	1-104-908-11	TANTAL. CHIP 47uF 20% 4V	
C304	1-104-908-11	TANTAL. CHIP 47uF 20% 4V	
C305	1-107-685-11	TANTAL. CHIP 15uF 20% 6.3V	
C306	1-164-938-11	CERAMIC CHIP 0.0015uF 10% 16V	
C307	1-164-489-11	CERAMIC CHIP 0.22uF 10% 16V	
C309	1-164-489-11	CERAMIC CHIP 0.22uF 10% 16V	
C310	1-164-938-11	CERAMIC CHIP 0.0015uF 10% 16V	
C311	1-109-982-11	CERAMIC CHIP 1uF 10% 10V	
C312	1-135-181-21	TANTALUM CHIP 4.7uF 20% 6.3V	
C314	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V	
C315	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V	
C316	1-164-939-11	CERAMIC CHIP 0.0022uF 10% 16V	
C318	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C319	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C371	1-107-820-11	CERAMIC CHIP 0.1uF 16V	
C372	1-164-937-11	CERAMIC CHIP 0.001uF 10% 16V	
C373	1-164-937-11	CERAMIC CHIP 0.001uF 10% 16V	
C374	1-104-851-11	TANTAL. CHIP 10uF 20% 10V	
C377	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V	
C602	1-135-201-11	TANTALUM CHIP 10uF 20% 4V	
C603	1-135-201-11	TANTALUM CHIP 10uF 20% 4V	
C604	1-107-820-11	CERAMIC CHIP 0.1uF 16V	
C605	1-135-201-11	TANTALUM CHIP 10uF 20% 4V	
C606	1-135-201-11	TANTALUM CHIP 10uF 20% 4V	
C1402	1-107-823-11	CERAMIC CHIP 0.47uF 10% 16V	
C1403	1-104-908-11	TANTAL. CHIP 47uF 20% 4V	
C1404	1-135-187-21	TANTAL. CHIP 2.2uF 20% 4V	
C1405	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C1406	1-107-823-11	CERAMIC CHIP 0.47uF 10% 16V	
C1407	1-135-187-21	TANTAL. CHIP 2.2uF 20% 4V	
C1408	1-135-187-21	TANTAL. CHIP 2.2uF 20% 4V	
C1409	1-104-847-11	TANTAL. CHIP 22uF 20% 4V	
C1410	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V	
C1411	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V	
C1412	1-135-201-11	TANTALUM CHIP 10uF 20% 4V	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
C1414	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V	
C1415	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V	
C1416	1-104-847-11	TANTAL. CHIP 22uF 20% 4V	
C1417	1-135-187-21	TANTAL. CHIP 2.2uF 20% 4V	
C1421	1-164-156-11	CERAMIC CHIP 0.1uF 25V	
C1422	1-135-187-21	TANTAL. CHIP 2.2uF 20% 4V	
C1423	1-107-823-11	CERAMIC CHIP 0.47uF 10% 16V	
C1424	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C1425	1-135-187-21	TANTAL. CHIP 2.2uF 20% 4V	
C1426	1-104-908-11	TANTAL. CHIP 47uF 20% 4V	
C1427	1-107-823-11	CERAMIC CHIP 0.47uF 10% 16V	
C1429	1-164-489-11	CERAMIC CHIP 0.22uF 10% 16V	
C1430	1-164-489-11	CERAMIC CHIP 0.22uF 10% 16V	
C1431	1-135-151-21	TANTALUM CHIP 4.7uF 20% 4V	
C1432	1-104-908-11	TANTAL. CHIP 47uF 20% 4V	
C1433	1-164-489-11	CERAMIC CHIP 0.22uF 10% 16V	
C1434	1-164-489-11	CERAMIC CHIP 0.22uF 10% 16V	
C1435	1-104-847-11	TANTAL. CHIP 22uF 20% 4V	
C1436	1-110-569-11	TANTAL. CHIP 47uF 20% 6.3V	
C1437	1-135-318-11	TANTAL. CHIP 33uF 20% 4V	
C1439	1-104-752-11	TANTAL. CHIP 33uF 20% 6.3V	
C1471	1-164-941-11	CERAMIC CHIP 0.0047uF 10% 16V	
C1472	1-164-941-11	CERAMIC CHIP 0.0047uF 10% 16V	(SC55)
C1473	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	(SC55)
C1474	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V	
C1475	1-163-017-00	CERAMIC CHIP 0.0047uF 5% 50V	
C1501	1-104-913-11	TANTAL. CHIP 10uF 20% 16V	
C1502	1-104-913-11	TANTAL. CHIP 10uF 20% 16V	
C1503	1-104-913-11	TANTAL. CHIP 10uF 20% 16V	
C1504	1-165-178-11	CERAMIC CHIP 6.8uF 16V	
C1505	1-165-178-11	CERAMIC CHIP 6.8uF 16V	
C1506	1-165-178-11	CERAMIC CHIP 6.8uF 16V	
C1507	1-165-178-11	CERAMIC CHIP 6.8uF 16V	
C1508	1-165-178-11	CERAMIC CHIP 6.8uF 16V	
C1509	1-165-178-11	CERAMIC CHIP 6.8uF 16V	
C1510	1-165-178-11	CERAMIC CHIP 6.8uF 16V	
C1511	1-165-178-11	CERAMIC CHIP 6.8uF 16V	
C1512	1-164-506-11	CERAMIC CHIP 4.7uF 16V	
C1513	1-164-506-11	CERAMIC CHIP 4.7uF 16V	
C1514	1-135-214-21	TANTAL. CHIP 4.7uF 20% 20V	
C1516	1-164-882-11	CERAMIC CHIP 220PF 5% 16V	
C1517	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C1518	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C1519	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C1520	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V	
C1521	1-164-939-11	CERAMIC CHIP 0.0022uF 10% 16V	
C1522	1-164-935-11	CERAMIC CHIP 470PF 10% 16V	
C1523	1-164-939-11	CERAMIC CHIP 0.0022uF 10% 16V	
C1524	1-164-937-11	CERAMIC CHIP 0.001uF 10% 16V	
C1525	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V	

Ref. No.	Part No.	Description	Remark
C1526	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C1527	1-164-937-11	CERAMIC CHIP 0.001uF 10% 16V	
C1528	1-164-937-11	CERAMIC CHIP 0.001uF 10% 16V	
C1530	1-164-937-11	CERAMIC CHIP 0.001uF 10% 16V	
C1532	1-164-937-11	CERAMIC CHIP 0.001uF 10% 16V	
C1534	1-164-937-11	CERAMIC CHIP 0.001uF 10% 16V	
C1536	1-164-937-11	CERAMIC CHIP 0.001uF 10% 16V	
C1538	1-164-937-11	CERAMIC CHIP 0.001uF 10% 16V	
C1546	1-104-913-11	TANTAL. CHIP 10uF 20% 16V	
C1951	1-135-091-91	TANTAL. CHIP 1uF 20% 16V	
C1952	1-107-820-11	CERAMIC CHIP 0.1uF 16V	
C1955	1-107-820-11	CERAMIC CHIP 0.1uF 16V	
C1956	1-104-847-11	TANTAL. CHIP 22uF 20% 4V	
C1957	1-104-847-11	TANTAL. CHIP 22uF 20% 4V	
C1958	1-107-820-11	CERAMIC CHIP 0.1uF 16V	
C1959	1-107-819-11	CERAMIC CHIP 0.022uF 10% 16V	
C1961	1-107-820-11	CERAMIC CHIP 0.1uF 16V	
C1976	1-164-854-11	CERAMIC CHIP 15PF 5% 16V	
C1977	1-107-820-11	CERAMIC CHIP 0.1uF 16V	
C1978	1-107-820-11	CERAMIC CHIP 0.1uF 16V	
C1981	1-107-820-11	CERAMIC CHIP 0.1uF 16V	
C1982	1-164-858-11	CERAMIC CHIP 22PF 5% 16V	
C1984	1-107-820-11	CERAMIC CHIP 0.1uF 16V	
C1986	1-107-820-11	CERAMIC CHIP 0.1uF 16V	
C1987	1-104-851-11	TANTAL. CHIP 10uF 20% 10V	
C1988	1-107-820-11	CERAMIC CHIP 0.1uF 16V	
C1989	1-107-820-11	CERAMIC CHIP 0.1uF 16V	
C1990	1-107-820-11	CERAMIC CHIP 0.1uF 16V	
		< CONNECTOR >	
CN53	1-766-344-21	CONNECTOR, FFC/FPC 14P	
CN59	1-770-627-21	PIN, CONNECTOR 10P	
CN60	1-774-603-41	CONNECTOR, BOARD TO BOARD 100P	
CN051	1-774-928-21	CONNECTOR, FFC/FPC 27P	
CN052	1-774-929-21	CONNECTOR, FFC/FPC 39P	
CN061	1-766-869-21	CONNECTOR, FFC/FPC 9P	
CN371	1-774-928-21	CONNECTOR, FFC/FPC 27P	
CN372	1-770-105-21	CONNECTOR, FFC/FPC 40P	
		< DIODE >	
D052	8-719-046-91	DIODE MA2S111	
D053	8-719-046-91	DIODE MA2S111	
D200	8-719-421-69	DIODE MA133	
D300	8-719-046-91	DIODE MA2S111	
D371	8-719-421-67	DIODE MA132WK	
D372	8-719-046-91	DIODE MA2S111	
D373	8-719-046-85	DIODE MA2S728	
D374	8-719-046-85	DIODE MA2S728	
D378	8-719-045-87	DIODE MA4Z082WA-(TX)	
D379	8-719-045-87	DIODE MA4Z082WA-(TX)	

Ref. No.	Part No.	Description	Remark
D380	8-719-045-87	DIODE MA4Z082WA-(TX)	
D381	8-719-045-87	DIODE MA4Z082WA-(TX)	
D382	8-719-045-87	DIODE MA4Z082WA-(TX)	
D383	8-719-045-87	DIODE MA4Z082WA-(TX)	
D384	8-719-045-87	DIODE MA4Z082WA-(TX)	
D385	8-719-045-87	DIODE MA4Z082WA-(TX)	
D386	8-719-045-87	DIODE MA4Z082WA-(TX)	
D388	8-719-045-87	DIODE MA4Z082WA-(TX)	
D389	8-719-045-87	DIODE MA4Z082WA-(TX)	
D390	8-719-045-87	DIODE MA4Z082WA-(TX)	
D391	8-719-045-87	DIODE MA4Z082WA-(TX)	
D392	8-719-045-87	DIODE MA4Z082WA-(TX)	
D393	8-719-045-87	DIODE MA4Z082WA-(TX)	
D394	8-719-045-87	DIODE MA4Z082WA-(TX)	
⚠D395	8-719-046-85	DIODE MA2S728	
D396	8-719-046-91	DIODE MA2S111	
D397	8-719-056-61	DIODE MAZS082008S0	
D398	8-719-046-91	DIODE MA2S111	
D400	8-719-045-87	DIODE MA4Z082WA-(TX)	
D401	8-719-045-87	DIODE MA4Z082WA-(TX)	
D402	8-719-045-87	DIODE MA4Z082WA-(TX)	
D403	8-719-045-87	DIODE MA4Z082WA-(TX)	
D1501	8-719-027-77	DIODE MA796	
D1951	8-719-046-91	DIODE MA2S111	
D1952	8-719-046-91	DIODE MA2S111	
D1953	8-719-046-91	DIODE MA2S111	
D1955	8-719-420-51	DIODE MA729	
D1956	8-719-046-85	DIODE MA2S728	
D1957	8-719-046-91	DIODE MA2S111	
		< IC >	
IC109	8-759-368-08	IC AN2980FH-EB	
IC110	8-759-377-28	IC SN104237PM-TEB	
IC300	8-759-299-00	IC BA7785FS-E2	
IC371	8-759-510-73	IC BA10393F-E2	
IC372	8-759-398-90	IC S-81236PG-P7-T1	
IC600	8-759-391-88	IC MC14066BDTR2	
IC1951	8-759-298-10	IC S-8423NFS-T2	
IC1952	8-759-399-25	IC S579108PZ-TEB	
IC1954	8-759-357-58	IC AK6420HM-E2	
IC1955	8-759-059-05	IC TL1596CPW	
		< COIL >	
L1	1-412-961-11	INDUCTOR 68uH	
L200	1-412-056-11	INDUCTOR CHIP 4.7uH	
L201	1-412-056-11	INDUCTOR CHIP 4.7uH	
L202	1-412-056-11	INDUCTOR CHIP 4.7uH	
L203	1-412-056-11	INDUCTOR CHIP 4.7uH	
L204	1-414-674-91	INDUCTOR 4.7uH	
L205	1-414-674-91	INDUCTOR 4.7uH	
L206	1-414-674-91	INDUCTOR 4.7uH	
L207	1-414-674-91	INDUCTOR 4.7uH	
L400	1-216-295-91	CONDUCTOR, CHIP (2012)	
L401	1-216-295-91	CONDUCTOR, CHIP (2012)	
L404	1-216-295-91	CONDUCTOR, CHIP (2012)	
L1501	1-411-801-21	COIL, CHOKE 10uH	
L1501	1-411-804-21	COIL, CHOKE 10uH	
L1502	1-411-801-21	COIL, CHOKE 10uH	
L1502	1-411-804-21	COIL, CHOKE 10uH	
L1503	1-411-801-21	COIL, CHOKE 10uH	
L1503	1-411-804-21	COIL, CHOKE 10uH	
L1504	1-411-802-21	COIL, CHOKE 22uH	
L1505	1-411-802-21	COIL, CHOKE 22uH	
L1506	1-411-802-21	COIL, CHOKE 22uH	
L1507	1-411-803-21	COIL, CHOKE 33uH	
L1508	1-411-802-21	COIL, CHOKE 22uH	
L1509	1-412-066-21	INDUCTOR CHIP 220uH	
L1951	1-414-675-11	INDUCTOR 10uH	
		< IC LINK >	
⚠PS001	1-533-709-11	FUSE (SMD) (1.25A) (SC55)	
⚠PS001	1-533-711-21	LINK, IC (SMD) (1.25A) (SC55E)	
⚠PS002	1-533-709-11	FUSE (SMD) (1.25A) (SC55)	
⚠PS002	1-533-711-21	LINK, IC (SMD) (1.25A) (SC55E)	
⚠PS003	1-533-709-11	FUSE (SMD) (1.25A) (SC55)	
⚠PS003	1-533-711-21	LINK, IC (SMD) (1.25A) (SC55E)	
⚠PS004	1-533-709-11	FUSE (SMD) (1.25A) (SC55)	
⚠PS004	1-533-711-21	LINK, IC (SMD) (1.25A) (SC55E)	
		< TRANSISTOR >	
Q200	8-729-429-18	TRANSISTOR UN9213	
Q201	8-729-015-60	TRANSISTOR 2SJ316	
Q202	8-729-428-88	TRANSISTOR UN9113	
Q203	8-729-425-64	TRANSISTOR 2SD2216-Q	
Q204	8-729-429-18	TRANSISTOR UN9213	
Q205	8-729-427-70	TRANSISTOR XP4401	
Q206	8-729-427-72	TRANSISTOR XP4501	
Q207	8-729-427-70	TRANSISTOR XP4401	
Q210	8-729-427-70	TRANSISTOR XP4401	
Q211	8-729-427-72	TRANSISTOR XP4501	
Q213	8-729-425-64	TRANSISTOR 2SD2216-Q	
Q216	8-729-427-70	TRANSISTOR XP4401	
Q218	8-729-427-72	TRANSISTOR XP4501	
Q304	8-729-927-99	TRANSISTOR 2SC4617R	
Q305	8-729-927-99	TRANSISTOR 2SC4617R	
Q371	8-729-427-16	TRANSISTOR XP4113	
Q373	8-729-427-61	TRANSISTOR XP4210-TXE	
Q374	8-729-429-18	TRANSISTOR UN9213	
Q375	8-729-037-58	TRANSISTOR UN9110J-(TX)	
Q376	8-729-428-88	TRANSISTOR UN9113	
Q377	8-729-037-71	TRANSISTOR UN9210J-(TX)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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Ref. No.	Part No.	Description	Remark
Q379	8-729-024-24	TRANSISTOR 2SK2154-TL	
Q380	8-729-024-24	TRANSISTOR 2SK2154-TL	
Q382	8-729-429-18	TRANSISTOR UN9213	
Q383	8-729-429-18	TRANSISTOR UN9213	
Q384	8-729-425-64	TRANSISTOR 2SD2216-Q	
Q385	8-729-101-07	TRANSISTOR 2SB798-DL	
Q386	8-729-429-18	TRANSISTOR UN9213	
Q603	8-729-037-63	TRANSISTOR UN9115J-(TX)	
Q604	8-729-429-50	TRANSISTOR XP4312	
Q605	8-729-427-51	TRANSISTOR XP4215-TXE	
Q606	8-729-427-52	TRANSISTOR XP4216	
Q607	8-729-428-88	TRANSISTOR UN9113	
Q608	8-729-427-46	TRANSISTOR XP4213	
Q609	8-729-427-51	TRANSISTOR XP4215-TXE	
Q610	8-729-427-52	TRANSISTOR XP4216	
Q611	8-729-429-50	TRANSISTOR XP4312	
Q1405	8-729-429-18	TRANSISTOR UN9213 (SC55)	
Q1406	8-729-427-46	TRANSISTOR XP4213 (SC55)	
Q1501	8-729-033-14	TRANSISTOR FP107-TL	
Q1502	8-729-033-14	TRANSISTOR FP107-TL	
Q1505	8-729-804-41	TRANSISTOR 2SB1122-S	
Q1506	8-729-033-14	TRANSISTOR FP107-TL	
Q1507	8-729-030-75	TRANSISTOR 2SK2316-TD	
Q1508	8-729-033-14	TRANSISTOR FP107-TL	
Q1509	8-729-033-14	TRANSISTOR FP107-TL	
Q1511	8-729-429-18	TRANSISTOR UN9213	
Q1952	8-729-015-66	TRANSISTOR 2SC4919	
Q1954	8-729-032-00	TRANSISTOR 2SJ381-TD	
Q1955	8-729-037-72	TRANSISTOR UN9211J-(TX).SO	
Q1959	8-729-032-62	TRANSISTOR 2SJ347-TE85L	
Q1962	8-729-427-46	TRANSISTOR XP4213	
Q1963	8-729-024-48	TRANSISTOR 2SK1830-TE85L	
Q1964	8-729-428-88	TRANSISTOR UN9113	
Q1966	8-729-427-72	TRANSISTOR XP4501	
		< RESISTOR >	
R200	1-218-989-11	METAL GLAZE 1M 5% 1/16W	
R201	1-218-989-11	METAL GLAZE 1M 5% 1/16W	
R202	1-218-977-11	METAL GLAZE 100K 5% 1/16W	
R203	1-218-881-11	METAL CHIP 27K 0.50% 1/16W	
R204	1-218-958-11	METAL GLAZE 2.7K 5% 1/16W	
R205	1-218-967-11	METAL GLAZE 15K 5% 1/16W	
R206	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R207	1-218-893-11	METAL CHIP 82K 0.50% 1/16W	
R208	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R209	1-218-977-11	METAL GLAZE 100K 5% 1/16W	
R211	1-218-977-11	METAL GLAZE 100K 5% 1/16W	
R213	1-218-977-11	METAL GLAZE 100K 5% 1/16W	
R214	1-218-977-11	METAL GLAZE 100K 5% 1/16W	
R215	1-218-877-11	METAL CHIP 18K 0.50% 1/16W	
R216	1-218-879-11	METAL CHIP 22K 0.50% 1/16W	
R217	1-218-961-11	METAL GLAZE 4.7K 5% 1/16W	
R218	1-218-871-11	METAL CHIP 10K 0.50% 1/16W	
R219	1-218-990-11	CONDUCTOR, CHIP (1005)	
R220	1-218-891-11	METAL CHIP 68K 0.50% 1/16W	
R221	1-218-897-11	METAL CHIP 120K 0.50% 1/16W	
R223	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R224	1-218-977-11	METAL GLAZE 100K 5% 1/16W	
R225	1-218-977-11	METAL GLAZE 100K 5% 1/16W	
R226	1-218-877-11	METAL CHIP 18K 0.50% 1/16W	
R227	1-218-879-11	METAL CHIP 22K 0.50% 1/16W	
R228	1-218-891-11	METAL CHIP 68K 0.50% 1/16W	
R233	1-218-990-11	CONDUCTOR, CHIP (1005)	
R235	1-218-990-11	CONDUCTOR, CHIP (1005)	
R237	1-216-864-11	METAL CHIP 0 5% 1/16W	
R240	1-216-864-11	METAL CHIP 0 5% 1/16W	
R302	1-218-942-11	METAL GLAZE 120 5% 1/16W	
R303	1-218-942-11	METAL GLAZE 120 5% 1/16W	
R304	1-218-969-11	METAL GLAZE 22K 5% 1/16W	
R312	1-218-967-11	METAL GLAZE 15K 5% 1/16W	
R313	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R314	1-218-977-11	METAL GLAZE 100K 5% 1/16W	
R316	1-218-958-11	METAL GLAZE 2.7K 5% 1/16W	
R317	1-218-951-11	METAL GLAZE 680 5% 1/16W	
R318	1-218-951-11	METAL GLAZE 680 5% 1/16W	
R372	1-218-977-11	METAL GLAZE 100K 5% 1/16W	
R373	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R374	1-218-977-11	METAL GLAZE 100K 5% 1/16W	
R375	1-218-977-11	METAL GLAZE 100K 5% 1/16W	
R376	1-218-986-11	METAL GLAZE 560K 5% 1/16W	
R377	1-218-956-11	METAL GLAZE 1.8K 5% 1/16W	
R378	1-218-977-11	METAL GLAZE 100K 5% 1/16W	
R379	1-218-941-11	METAL GLAZE 100 5% 1/16W	
R380	1-218-990-11	CONDUCTOR, CHIP (1005)	
R381	1-218-976-11	METAL GLAZE 82K 5% 1/16W	
R382	1-218-989-11	METAL GLAZE 1M 5% 1/16W	
R383	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R384	1-218-959-11	METAL GLAZE 3.3K 5% 1/16W	
R385	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R386	1-218-990-11	CONDUCTOR, CHIP (1005)	
R387	1-218-959-11	METAL GLAZE 3.3K 5% 1/16W	
R388	1-218-967-11	METAL GLAZE 15K 5% 1/16W	
R390	1-218-977-11	METAL GLAZE 100K 5% 1/16W	
R392	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R394	1-218-945-11	METAL GLAZE 220 5% 1/16W	
R395	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R396	1-218-945-11	METAL GLAZE 220 5% 1/16W	
R397	1-218-968-11	METAL GLAZE 18K 5% 1/16W	
R398	1-218-952-11	METAL GLAZE 820 5% 1/16W	
R399	1-218-962-11	METAL GLAZE 5.6K 5% 1/16W	
R400	1-216-791-11	METAL CHIP 3.3 5% 1/16W	

Ref.No.	Part No.	Description				Remark
R401	1-216-864-11	METAL CHIP	0	5%	1/16W	
R402	1-216-864-11	METAL CHIP	0	5%	1/16W	
R403	1-216-864-11	METAL CHIP	0	5%	1/16W	
R405	1-216-864-11	METAL CHIP	0	5%	1/16W	
R407	1-216-864-11	METAL CHIP	0	5%	1/16W	
R408	1-216-864-11	METAL CHIP	0	5%	1/16W	
R409	1-216-864-11	METAL CHIP	0	5%	1/16W	
R414	1-216-864-11	METAL CHIP	0	5%	1/16W	
R415	1-216-864-11	METAL CHIP	0	5%	1/16W	
R416	1-216-802-11	METAL GLAZE	27	5%	1/16W	
R417	1-216-864-11	METAL CHIP	0	5%	1/16W	
R418	1-216-864-11	METAL CHIP	0	5%	1/16W	
R419	1-216-864-11	METAL CHIP	0	5%	1/16W	
R420	1-216-864-11	METAL CHIP	0	5%	1/16W	
R605	1-218-949-11	METAL GLAZE	470	5%	1/16W	
R606	1-218-949-11	METAL GLAZE	470	5%	1/16W	
R607	1-218-949-11	METAL GLAZE	470	5%	1/16W	
R608	1-218-949-11	METAL GLAZE	470	5%	1/16W	
R609	1-218-977-11	METAL GLAZE	100K	5%	1/16W	
R610	1-218-973-11	METAL GLAZE	47K	5%	1/16W	
R611	1-218-977-11	METAL GLAZE	100K	5%	1/16W	
R612	1-218-949-11	METAL GLAZE	470	5%	1/16W	
R613	1-218-949-11	METAL GLAZE	470	5%	1/16W	
R614	1-218-949-11	METAL GLAZE	470	5%	1/16W	
R615	1-218-949-11	METAL GLAZE	470	5%	1/16W	
R1402	1-218-956-11	METAL GLAZE	1.8K	5%	1/16W	
R1403	1-208-943-11	METAL GLAZE	220K	0.50%	1/16W	
R1404	1-218-961-11	METAL GLAZE	4.7K	5%	1/16W	
R1406	1-218-901-11	METAL CHIP	180K	0.50%	1/16W	
R1407	1-218-873-11	METAL CHIP	12K	0.50%	1/16W	
R1408	1-218-961-11	METAL GLAZE	4.7K	5%	1/16W	
R1409	1-218-952-11	METAL GLAZE	820	5%	1/16W	
R1410	1-218-977-11	METAL GLAZE	100K	5%	1/16W	
R1415	1-164-870-11	CERAMIC CHIP	68PF	5%	16V	
R1418	1-208-943-11	METAL GLAZE	220K	0.50%	1/16W	
R1419	1-218-990-11	CONDUCTOR, CHIP (1005)				
R1421	1-218-955-11	METAL GLAZE	1.5K	5%	1/16W	
R1422	1-218-985-11	METAL GLAZE	470K	5%	1/16W	
R1423	1-218-973-11	METAL GLAZE	47K	5%	1/16W	
R1424	1-218-965-11	METAL GLAZE	10K	5%	1/16W	
R1425	1-218-973-11	METAL GLAZE	47K	5%	1/16W	
R1426	1-218-955-11	METAL GLAZE	1.5K	5%	1/16W	
R1429	1-208-949-11	METAL GLAZE	390K	0.50%	1/16W	
R1430	1-208-949-11	METAL GLAZE	390K	0.50%	1/16W	
R1431	1-218-981-11	METAL GLAZE	220K	5%	1/16W	
R1460	1-218-990-11	CONDUCTOR, CHIP (1005)				
R1463	1-218-990-11	CONDUCTOR, CHIP (1005)				
R1466	1-218-969-11	METAL GLAZE	22K	5%	1/16W	(SC55)
R1472	1-208-691-11	METAL GLAZE	2.2K	0.50%	1/16W	
R1476	1-218-961-11	METAL GLAZE	4.7K	5%	1/16W	

Ref.No.	Part No.	Description				Remark
R1477	1-218-945-11	METAL GLAZE	220	5%	1/16W	
R1501	1-218-879-11	METAL CHIP	22K	0.50%	1/16W	
R1502	1-218-971-11	METAL GLAZE	33K	5%	1/16W	
R1503	1-218-891-11	METAL CHIP	68K	0.50%	1/16W	
R1504	1-218-969-11	METAL GLAZE	22K	5%	1/16W	
R1505	1-218-988-11	METAL GLAZE	820K	5%	1/16W	
R1506	1-218-971-11	METAL GLAZE	33K	5%	1/16W	
R1508	1-218-971-11	METAL GLAZE	33K	5%	1/16W	
R1509	1-218-953-11	METAL GLAZE	1K	5%	1/16W	
R1510	1-218-965-11	METAL GLAZE	10K	5%	1/16W	
R1511	1-218-953-11	METAL GLAZE	1K	5%	1/16W	
R1512	1-218-965-11	METAL GLAZE	10K	5%	1/16W	
R1513	1-218-965-11	METAL GLAZE	10K	5%	1/16W	
R1514	1-218-965-11	METAL GLAZE	10K	5%	1/16W	
R1515	1-218-967-11	METAL GLAZE	15K	5%	1/16W	
R1516	1-218-965-11	METAL GLAZE	10K	5%	1/16W	
R1517	1-218-965-11	METAL GLAZE	10K	5%	1/16W	
R1518	1-218-967-11	METAL GLAZE	15K	5%	1/16W	
R1519	1-218-973-11	METAL GLAZE	47K	5%	1/16W	
R1522	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R1523	1-218-967-11	METAL GLAZE	15K	5%	1/16W	
R1524	1-218-963-11	METAL GLAZE	6.8K	5%	1/16W	
R1525	1-218-911-11	METAL CHIP	470K	0.50%	1/16W	
R1528	1-218-990-11	CONDUCTOR, CHIP (1005)				
R1529	1-218-986-11	METAL GLAZE	560K	5%	1/16W	
R1953	1-218-957-11	METAL GLAZE	2.2K	5%	1/16W	
R1954	1-218-957-11	METAL GLAZE	2.2K	5%	1/16W	
R1955	1-218-989-11	METAL GLAZE	1M	5%	1/16W	
R1956	1-218-977-11	METAL GLAZE	100K	5%	1/16W	
R1957	1-218-945-11	METAL GLAZE	220	5%	1/16W	
R1958	1-218-965-11	METAL GLAZE	10K	5%	1/16W	
R1959	1-216-864-11	METAL CHIP	0	5%	1/16W	
R1960	1-218-953-11	METAL GLAZE	1K	5%	1/16W	
R1962	1-218-985-11	METAL GLAZE	470K	5%	1/16W	
R1963	1-218-985-11	METAL GLAZE	470K	5%	1/16W	
R1964	1-218-985-11	METAL GLAZE	470K	5%	1/16W	
R1965	1-218-985-11	METAL GLAZE	470K	5%	1/16W	
R1966	1-218-985-11	METAL GLAZE	470K	5%	1/16W	
R1967	1-218-985-11	METAL GLAZE	470K	5%	1/16W	
R1969	1-218-985-11	METAL GLAZE	470K	5%	1/16W	
R1970	1-218-985-11	METAL GLAZE	470K	5%	1/16W	
R1972	1-218-985-11	METAL GLAZE	470K	5%	1/16W	
R1973	1-218-965-11	METAL GLAZE	10K	5%	1/16W	
R1974	1-218-953-11	METAL GLAZE	1K	5%	1/16W	
R1975	1-218-953-11	METAL GLAZE	1K	5%	1/16W	
R1976	1-218-953-11	METAL GLAZE	1K	5%	1/16W	
R1977	1-218-953-11	METAL GLAZE	1K	5%	1/16W	
R1978	1-218-953-11	METAL GLAZE	1K	5%	1/16W	
R1979	1-218-973-11	METAL GLAZE	47K	5%	1/16W	
R1980	1-218-973-11	METAL GLAZE	47K	5%	1/16W	

Ref. No.	Part No.	Description				Remark
R1983	1-218-965-11	METAL GLAZE	10K	5%	1/16W	
R1984	1-218-965-11	METAL GLAZE	10K	5%	1/16W	
R1987	1-218-965-11	METAL GLAZE	10K	5%	1/16W	
R1988	1-218-965-11	METAL GLAZE	10K	5%	1/16W	
R1991	1-218-985-11	METAL GLAZE	470K	5%	1/16W	
R1992	1-218-965-11	METAL GLAZE	10K	5%	1/16W	
R1993	1-218-965-11	METAL GLAZE	10K	5%	1/16W	
R1994	1-218-965-11	METAL GLAZE	10K	5%	1/16W	
R1995	1-218-953-11	METAL GLAZE	1K	5%	1/16W	
R1996	1-218-953-11	METAL GLAZE	1K	5%	1/16W	
R1997	1-218-953-11	METAL GLAZE	1K	5%	1/16W	
R1998	1-218-953-11	METAL GLAZE	1K	5%	1/16W	
R1999	1-218-953-11	METAL GLAZE	1K	5%	1/16W	
R2000	1-218-953-11	METAL GLAZE	1K	5%	1/16W	
R2001	1-218-957-11	METAL GLAZE	2.2K	5%	1/16W	
R2003	1-218-953-11	METAL GLAZE	1K	5%	1/16W	
R2006	1-218-953-11	METAL GLAZE	1K	5%	1/16W	
R2011	1-218-973-11	METAL GLAZE	47K	5%	1/16W	
R2012	1-218-985-11	METAL GLAZE	470K	5%	1/16W	
R2013	1-218-953-11	METAL GLAZE	1K	5%	1/16W	
R2015	1-219-570-11	METAL GLAZE	10M	5%	1/16W	
R2017	1-218-985-11	METAL GLAZE	470K	5%	1/16W	
R2018	1-218-977-11	METAL GLAZE	100K	5%	1/16W	
R2019	1-218-953-11	METAL GLAZE	1K	5%	1/16W	
R2020	1-218-977-11	METAL GLAZE	100K	5%	1/16W	
R2021	1-218-981-11	METAL GLAZE	220K	5%	1/16W	
R2022	1-218-973-11	METAL GLAZE	47K	5%	1/16W	
R2023	1-218-985-11	METAL GLAZE	470K	5%	1/16W	
R2024	1-218-985-11	METAL GLAZE	470K	5%	1/16W	
R2027	1-218-953-11	METAL GLAZE	1K	5%	1/16W	
R2028	1-218-953-11	METAL GLAZE	1K	5%	1/16W	
R2029	1-218-985-11	METAL GLAZE	470K	5%	1/16W	
R2030	1-218-953-11	METAL GLAZE	1K	5%	1/16W	
R2031	1-218-949-11	METAL GLAZE	470	5%	1/16W	
R2032	1-218-977-11	METAL GLAZE	100K	5%	1/16W	
R2033	1-218-977-11	METAL GLAZE	100K	5%	1/16W	
R2036	1-218-973-11	METAL GLAZE	47K	5%	1/16W	
R2037	1-218-973-11	METAL GLAZE	47K	5%	1/16W	
R2038	1-218-973-11	METAL GLAZE	47K	5%	1/16W	
R2039	1-218-985-11	METAL GLAZE	470K	5%	1/16W	
R2040	1-218-953-11	METAL GLAZE	1K	5%	1/16W	
R2041	1-218-990-11	CONDUCTOR, CHIP (1005)				
R2042	1-218-953-11	METAL GLAZE	1K	5%	1/16W	
R2043	1-218-942-11	METAL GLAZE	120	5%	1/16W	
R2044	1-218-977-11	METAL GLAZE	100K	5%	1/16W	
R2046	1-218-977-11	METAL GLAZE	100K	5%	1/16W	
R2047	1-218-965-11	METAL GLAZE	10K	5%	1/16W	
R2048	1-218-985-11	METAL GLAZE	470K	5%	1/16W	
R2049	1-218-958-11	METAL GLAZE	2.7K	5%	1/16W	

< TRANSFORMER >

Ref. No.	Part No.	Description	Remark
T1503	1-429-565-21	TRANSFORMER, CONVERTER	

< VIBRATOR >

Ref. No.	Part No.	Description	Remark
X1951	1-760-458-21	VIBRATOR, CRYSTAL (32.768MHz)	
X1952	1-579-907-21	VIBRATOR, CERAMIC (20MHz)	

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* A-7066-852-A VD-25 BOARD, COMPLETE (SERVICE)(SC55E)
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* A-7092-899-A VD-25 BOARD, COMPLETE (SERVICE)(SC55)
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(Ref. No. 2,000 Series)

< CAPACITOR >

Ref. No.	Part No.	Description				Remark
C607	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C608	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C609	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V	
C610	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V	
C611	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V	
C612	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V	
C613	1-107-820-11	CERAMIC CHIP	0.1uF		16V	
C625	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1001	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	16V	
C1002	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	16V	
C1003	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1004	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1005	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1007	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1008	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	16V	
C1009	1-104-752-11	TANTAL. CHIP	33uF	20%	6.3V	
C1010	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	16V	
C1011	1-104-752-11	TANTAL. CHIP	33uF	20%	6.3V	
C1012	1-164-878-11	CERAMIC CHIP	150PF	5%	16V	
C1013	1-164-874-11	CERAMIC CHIP	100PF	5%	16V	
C1014	1-164-872-11	CERAMIC CHIP	82PF	5%	16V	
C1015	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1016	1-164-874-11	CERAMIC CHIP	100PF	5%	16V	
C1017	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1018	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1019	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1020	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1021	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1022	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1023	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1024	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1025	1-107-820-11	CERAMIC CHIP	0.1uF		16V	
C1026	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1027	1-164-949-11	CERAMIC CHIP	0.047uF		16V	

Ref.No.	Part No.	Description				Remark
C1028	1-164-949-11	CERAMIC CHIP	0.047uF		16V	
C1029	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1030	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1031	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1032	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1033	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1034	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C1035	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1036	1-164-949-11	CERAMIC CHIP	0.047uF		16V	
C1037	1-164-949-11	CERAMIC CHIP	0.047uF		16V	
C1039	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1040	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C1042	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1045	1-164-934-11	CERAMIC CHIP	330PF	10%	16V	
C1048	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1050	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1051	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C1052	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1053	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1054	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1055	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1058	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1060	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1063	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1064	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1065	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V	
C1068	1-164-878-11	CERAMIC CHIP	150PF	5%	16V	
C1069	1-107-820-11	CERAMIC CHIP	0.1uF		16V	
C1070	1-164-870-11	CERAMIC CHIP	68PF	5%	16V	
C1071	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1072	1-107-820-11	CERAMIC CHIP	0.1uF		16V	
C1073	1-162-958-11	CERAMIC CHIP	270PF	5%	50V	
C1074	1-164-872-11	CERAMIC CHIP	82PF	5%	16V	
C1076	1-164-940-11	CERAMIC CHIP	0.0033uF	10%	16V	
C1077	1-164-862-11	CERAMIC CHIP	33PF	5%	16V	
C1080	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1081	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	16V	
C1083	1-162-958-11	CERAMIC CHIP	270PF	5%	50V	
C1084	1-162-959-11	CERAMIC CHIP	330PF	5%	50V	
C1085	1-164-864-11	CERAMIC CHIP	39PF	5%	16V	
C1086	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	16V	
C1087	1-164-862-11	CERAMIC CHIP	33PF	5%	16V	(SC55)
C1087	1-164-864-11	CERAMIC CHIP	39PF	5%	16V	(SC55E)
C1089	1-164-874-11	CERAMIC CHIP	100PF	5%	16V	
C1090	1-164-870-11	CERAMIC CHIP	68PF	5%	16V	
C1091	1-164-860-11	CERAMIC CHIP	27PF	5%	16V	
C1092	1-164-850-11	CERAMIC CHIP	18PF	5%	16V	
C1093	1-164-842-11	CERAMIC CHIP	2PF	0.25PF	16V	
C1094	1-164-845-11	CERAMIC CHIP	5PF	0.25PF	16V	(SC55E)
C1094	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	16V	(SC55)

Ref.No.	Part No.	Description				Remark
C1095	1-164-862-11	CERAMIC CHIP	33PF	5%	16V	
C1096	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1097	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	
C1141	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C1147	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	(SC55E)
C1147	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	(SC55)
C1151	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1152	1-135-201-11	TANTALUM CHIP	10uF	20%	4V	
C1153	1-164-878-11	CERAMIC CHIP	150PF	5%	16V	
C1154	1-135-201-11	TANTALUM CHIP	10uF	20%	4V	
C1155	1-115-156-11	CERAMIC CHIP	1uF		10V	
C1156	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1157	1-115-156-11	CERAMIC CHIP	1uF		10V	
C1160	1-115-156-11	CERAMIC CHIP	1uF		10V	
C1161	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1162	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1163	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1164	1-107-820-11	CERAMIC CHIP	0.1uF		16V	
C1165	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C1166	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1167	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1168	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1173	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V	(SC55)
C1201	1-164-938-11	CERAMIC CHIP	0.0015uF	10%	16V	
C1203	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V	
C1204	1-164-392-11	CERAMIC CHIP	390PF	5%	50V	
C1205	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1206	1-135-201-11	TANTALUM CHIP	10uF	20%	4V	
C1207	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1208	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1209	1-107-820-11	CERAMIC CHIP	0.1uF		16V	
C1210	1-115-156-11	CERAMIC CHIP	1uF		10V	
C1212	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C1213	1-135-201-11	TANTALUM CHIP	10uF	20%	4V	
C1215	1-135-201-11	TANTALUM CHIP	10uF	20%	4V	
C1216	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1217	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C1218	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1219	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V	
C1220	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V	
C1222	1-115-156-11	CERAMIC CHIP	1uF		10V	
C1223	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1224	1-135-201-11	TANTALUM CHIP	10uF	20%	4V	
C1227	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C1228	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C1229	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1230	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C1231	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	16V	
C1232	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	16V	
C1233	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	

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Ref. No.	Part No.	Description				Remark
C1234	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1236	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1237	1-135-201-11	TANTALUM CHIP	10uF	20%	4V	
C1240	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1280	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	16V	
C1282	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1283	1-164-864-11	CERAMIC CHIP	39PF	5%	16V	
C1284	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V	
C1301	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1302	1-104-852-11	TANTAL. CHIP	22uF	20%	6.3V	
C1306	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1307	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V	
C1308	1-135-180-21	TANTALUM CHIP	3.3uF	20%	6.3V	
C1309	1-135-180-21	TANTALUM CHIP	3.3uF	20%	6.3V	
C1310	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V	
C1311	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V	
C1312	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1313	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1314	1-135-180-21	TANTALUM CHIP	3.3uF	20%	6.3V	
C1315	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1317	1-135-201-11	TANTALUM CHIP	10uF	20%	4V	
C1318	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V	
C1319	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1320	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1321	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1322	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V	
C1323	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V	
C1324	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V	
C1326	1-164-874-11	CERAMIC CHIP	100PF	5%	16V	
C1327	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1328	1-164-858-11	CERAMIC CHIP	22PF	5%	16V	
C1330	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1331	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V	
C1332	1-135-338-11	TANTAL. CHIP	220uF	20%	4V	
C1333	1-135-338-11	TANTAL. CHIP	220uF	20%	4V	
C1334	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V	
C1335	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C1336	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1337	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C1338	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1339	1-135-201-11	TANTALUM CHIP	10uF	20%	4V	
C1340	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1342	1-164-876-11	CERAMIC CHIP	120PF	5%	16V	(SC55E)
C1342	1-164-878-11	CERAMIC CHIP	150PF	5%	16V	(SC55)
C1343	1-164-860-11	CERAMIC CHIP	27PF	5%	16V	(SC55E)
C1343	1-164-864-11	CERAMIC CHIP	39PF	5%	16V	(SC55)
C1344	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V	(SC55)
C1345	1-135-180-21	TANTALUM CHIP	3.3uF	20%	6.3V	
C1361	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V	(SC55)
C1363	1-107-820-11	CERAMIC CHIP	0.1uF		16V	(SC55)
C1366	1-164-346-11	CERAMIC CHIP	1uF		16V	(SC55)
C1651	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1652	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1653	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1654	1-115-156-11	CERAMIC CHIP	1uF		10V	
C1655	1-115-156-11	CERAMIC CHIP	1uF		10V	
C1656	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	16V	
C1657	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V	
C1658	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1659	1-164-156-11	CERAMIC CHIP	0.1uF		25V	
C1665	1-115-156-11	CERAMIC CHIP	1uF		10V	
C1702	1-115-156-11	CERAMIC CHIP	1uF		10V	
C1703	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1751	1-104-847-11	TANTAL. CHIP	22uF	20%	4V	
C1752	1-107-820-11	CERAMIC CHIP	0.1uF		16V	
C1753	1-107-820-11	CERAMIC CHIP	0.1uF		16V	
C1754	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1755	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	16V	
C1756	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	16V	
C1757	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V	
C1758	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V	
C1760	1-107-820-11	CERAMIC CHIP	0.1uF		16V	
C1761	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	16V	
C1762	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	16V	
C1763	1-164-846-11	CERAMIC CHIP	6PF	0.5PF	16V	
C1764	1-104-847-11	TANTAL. CHIP	22uF	20%	4V	
C1765	1-104-847-11	TANTAL. CHIP	22uF	20%	4V	
C1766	1-164-858-11	CERAMIC CHIP	22PF	5%	16V	
C1768	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1769	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	
C1770	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V	
C1771	1-164-882-11	CERAMIC CHIP	220PF	5%	16V	
C1772	1-164-882-11	CERAMIC CHIP	220PF	5%	16V	
C1773	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1774	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1775	1-164-943-11	CERAMIC CHIP	0.01MF	10%	16V	
C1776	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V	
C1777	1-107-820-11	CERAMIC CHIP	0.1uF		16V	
C1779	1-107-820-11	CERAMIC CHIP	0.1uF		16V	
C1781	1-164-878-11	CERAMIC CHIP	150PF	5%	16V	
C1782	1-164-866-11	CERAMIC CHIP	47PF	5%	16V	
C1851	1-107-820-11	CERAMIC CHIP	0.1uF		16V	
C1852	1-107-820-11	CERAMIC CHIP	0.1uF		16V	
C1853	1-107-820-11	CERAMIC CHIP	0.1uF		16V	
C1855	1-107-820-11	CERAMIC CHIP	0.1uF		16V	
C1858	1-107-820-11	CERAMIC CHIP	0.1uF		16V	
C1859	1-107-820-11	CERAMIC CHIP	0.1uF		16V	
C1860	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V	(SC55)
C1860	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	(SC55E)
C1861	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V	(SC55)

Ref. No.	Part No.	Description	Remark
C1861	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V	(SC55E)
C1862	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	(SC55E)
C1862	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	(SC55)
C1863	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C1864	1-109-982-11	CERAMIC CHIP 1uF 10% 10V	
C1865	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V	
C1866	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	
C1867	1-164-941-11	CERAMIC CHIP 0.0047uF 10% 16V	
C1869	1-107-819-11	CERAMIC CHIP 0.022uF 10% 16V	
C1870	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	
C1871	1-164-937-11	CERAMIC CHIP 0.001uF 10% 16V	
C1872	1-164-937-11	CERAMIC CHIP 0.001uF 10% 16V	
C1873	1-165-176-11	CERAMIC CHIP 0.047uF 10% 16V	
C1874	1-107-819-11	CERAMIC CHIP 0.022uF 10% 16V	
C1875	1-107-819-11	CERAMIC CHIP 0.022uF 10% 16V	
C1876	1-107-819-11	CERAMIC CHIP 0.022uF 10% 16V	
C1877	1-164-941-11	CERAMIC CHIP 0.0047uF 10% 16V	
C1878	1-164-941-11	CERAMIC CHIP 0.0047uF 10% 16V	
C1879	1-107-820-11	CERAMIC CHIP 0.1uF 16V	
C1880	1-115-156-11	CERAMIC CHIP 1uF 10V	
C1882	1-115-156-11	CERAMIC CHIP 1uF 10V	
C1884	1-107-820-11	CERAMIC CHIP 0.1uF 16V	
C1885	1-107-820-11	CERAMIC CHIP 0.1uF 16V	
C2101	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	
C2102	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V	
C2103	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V	
C2105	1-164-868-11	CERAMIC CHIP 56PF 5% 16V	(SC55)
C2106	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V	
C2107	1-164-866-11	CERAMIC CHIP 47PF 5% 16V	
C2108	1-164-850-11	CERAMIC CHIP 10PF 0.5PF 16V	
C2109	1-164-870-11	CERAMIC CHIP 68PF 5% 16V	
C2110	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V	
C2111	1-135-201-11	TANTALUM CHIP 10uF 20% 4V	
C2112	1-107-820-11	CERAMIC CHIP 0.1uF 16V	
C2113	1-135-201-11	TANTALUM CHIP 10uF 20% 4V	
C2114	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V	
C2115	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V	
C2116	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C2117	1-164-937-11	CERAMIC CHIP 0.001uF 10% 16V	
C2118	1-107-820-11	CERAMIC CHIP 0.1uF 16V	

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
CN001	1-774-598-41	CONNECTOR, BOARD TO BOARD 100P	
CN003	1-774-930-21	CONNECTOR, FFC/FPC 51P	
CN004	1-774-711-41	CONNECTOR, BOARD TO BOARD 20P	
CN1001	1-573-355-11	CONNECTOR, FFC/FPC 15P	
CN1651	1-774-597-41	CONNECTOR, BOARD TO BOARD 70P	

< DIODE >

Ref. No.	Part No.	Description	Remark
D1201	8-719-055-86	DIODE KV1470TL1-3	
D1202	8-719-055-86	DIODE KV1470TL1-3	
D1305	8-719-404-49	DIODE MA111 (SC55)	
D1306	8-719-404-49	DIODE MA111 (SC55)	
D1758	8-719-420-51	DIODE MA729	

< FERRITE BEAD >

Ref. No.	Part No.	Description	Remark
FB1151	1-500-284-21	INDUCTOR, FERRITE BEAD	
FB1651	1-414-233-21	INDUCTOR, FERRITE BEAD	
FB1652	1-414-233-21	INDUCTOR, FERRITE BEAD	

< IC >

Ref. No.	Part No.	Description	Remark
IC101	8-752-071-76	IC CXA2004R	
IC102	8-759-357-62	IC MB87B108DPFV-G-BND-ER	
IC103	8-752-356-45	IC CXD2301Q	
IC104	8-759-357-65	IC uPD6466GS-604-GLG-E2	
IC105	8-759-357-64	IC CF45819BPZ-TEB	
IC106	8-759-387-35	IC HG51CS276TETL	
IC108	8-759-169-02	IC MB88344BPFV-G-BND-ER	
IC114	8-752-380-17	IC CXD2177BR	
IC115	8-752-379-65	IC CXD2178AR	
IC116	8-759-357-59	IC AK6440HM-E2	
IC117	8-752-873-93	IC CXP912032-014R-T6	
IC118	8-759-196-96	IC TC7SH08FU-TE85R	
IC119	8-759-196-96	IC TC7SH08FU-TE85R	
IC120	8-752-078-49	IC CXA1814AQ	
IC121	8-759-327-67	IC LB1950V-TLM	
IC122	8-759-327-62	IC TA8482FN-EL	
IC128	8-759-421-52	IC MB87B110CPF-G-BND-E	
IC129	8-759-357-63	IC AN2220FH-EB	
IC130	8-759-058-58	IC TC7S04FU-TE85L	
IC131	8-759-058-59	IC TC7SU04FU-TE85L	
IC151	8-759-335-30	IC HD49315AFEB	
IC152	8-752-377-12	IC CXD2175R	
IC601	8-759-284-49	IC NJM2285V-TE2	

< COIL >

Ref. No.	Part No.	Description	Remark
L1001	1-412-066-21	INDUCTOR CHIP 220uH	
L1002	1-412-066-21	INDUCTOR CHIP 220uH	
L1003	1-412-951-11	INDUCTOR 10uH	
L1004	1-412-066-21	INDUCTOR CHIP 220uH	
L1005	1-412-058-11	INDUCTOR CHIP 10uH	
L1006	1-412-948-11	INDUCTOR 5.6uH	
L1007	1-410-656-11	INDUCTOR CHIP 150uH	
L1008	1-412-963-11	INDUCTOR 100uH	
L1009	1-412-957-11	INDUCTOR 33uH	
L1010	1-412-280-31	INDUCTOR 330uH	
L1011	1-412-282-41	INDUCTOR 470uH	
L1012	1-410-657-21	INDUCTOR CHIP 180uH	
L1013	1-410-656-11	INDUCTOR CHIP 150uH	
L1014	1-412-956-21	INDUCTOR 27uH	
L1015	1-412-280-31	INDUCTOR 330uH	

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Ref. No.	Part No.	Description	Remark
L1017	1-412-949-21	INDUCTOR 6.8uH	
L1018	1-412-951-11	INDUCTOR 10uH (SC55)	
L1018	1-412-952-11	INDUCTOR 12uH (SC55E)	
L1019	1-412-944-11	INDUCTOR 2.7uH	
L1020	1-414-675-11	INDUCTOR 10uH	
L1151	1-414-675-11	INDUCTOR 10uH	
L1154	1-414-675-11	INDUCTOR 10uH	
L1201	1-414-675-11	INDUCTOR 10uH	
L1202	1-414-675-11	INDUCTOR 10uH	
L1203	1-414-675-11	INDUCTOR 10uH	
L1204	1-412-945-11	INDUCTOR 3.3uH	
L1206	1-414-675-11	INDUCTOR 10uH	
L1207	1-414-078-11	INDUCTOR 10uH	
L1209	1-414-675-11	INDUCTOR 10uH	
L1220	1-412-955-11	INDUCTOR 22uH	
L1301	1-414-675-11	INDUCTOR 10uH	
L1303	1-412-937-11	INDUCTOR 0.68uH (SC55E)	
L1303	1-412-939-11	INDUCTOR 1uH (SC55)	
L1305	1-414-675-11	INDUCTOR 10uH	
L1306	1-414-675-11	INDUCTOR 10uH	
L1307	1-414-675-11	INDUCTOR 10uH	
L1308	1-412-959-11	INDUCTOR 47uH	
L1651	1-414-675-11	INDUCTOR 10uH	
L1652	1-414-675-11	INDUCTOR 10uH	
L1654	1-414-675-11	INDUCTOR 10uH	
L1701	1-414-675-11	INDUCTOR 10uH	
L1751	1-414-675-11	INDUCTOR 10uH	
L1752	1-414-675-11	INDUCTOR 10uH	
L1753	1-414-675-11	INDUCTOR 10uH	
L1754	1-412-957-11	INDUCTOR 33uH	
L2101	1-414-675-11	INDUCTOR 10uH	
L2102	1-412-950-11	INDUCTOR 8.2uH	
L2103	1-414-675-11	INDUCTOR 10uH	
L2104	1-414-675-11	INDUCTOR 10uH	
L2105	1-410-658-31	INDUCTOR CHIP 220uH	
		< TRANSISTOR >	
Q620	8-729-428-88	TRANSISTOR UN9113	
Q621	8-729-015-66	TRANSISTOR 2SC4919	
Q622	8-729-015-66	TRANSISTOR 2SC4919	
Q623	8-729-015-66	TRANSISTOR 2SC4919	
Q1001	8-729-031-69	TRANSISTOR 2SA1965-TL	
Q1002	8-729-425-50	TRANSISTOR 2SB1462-Q	
Q1003	8-729-425-50	TRANSISTOR 2SB1462-Q	
Q1004	8-729-031-69	TRANSISTOR 2SA1965-TL	
Q1005	8-729-031-69	TRANSISTOR 2SA1965-TL	
Q1006	8-729-031-69	TRANSISTOR 2SA1965-TL	
Q1007	8-729-031-69	TRANSISTOR 2SA1965-TL	
Q1008	8-729-425-64	TRANSISTOR 2SD2216-Q	
Q1009	8-729-429-18	TRANSISTOR UN9213	
Q1010	8-729-429-18	TRANSISTOR UN9213	

Ref. No.	Part No.	Description	Remark
Q1011	8-729-429-18	TRANSISTOR UN9213	
Q1012	8-729-429-18	TRANSISTOR UN9213	
Q1013	8-729-429-18	TRANSISTOR UN9213	
Q1014	8-729-429-18	TRANSISTOR UN9213	
Q1015	8-729-429-18	TRANSISTOR UN9213	
Q1016	8-729-425-64	TRANSISTOR 2SD2216-Q	
Q1017	8-729-034-69	TRANSISTOR 2SC4627J-C(TXD)	
Q1018	8-729-429-18	TRANSISTOR UN9213 (SC55E)	
Q1019	8-729-425-64	TRANSISTOR 2SD2216-Q	
Q1023	8-729-429-18	TRANSISTOR UN9213	
Q1025	8-729-425-64	TRANSISTOR 2SD2216-Q	
Q1026	8-729-425-64	TRANSISTOR 2SD2216-Q	
Q1028	8-729-425-64	TRANSISTOR 2SD2216-Q	
Q1029	8-729-425-64	TRANSISTOR 2SD2216-Q	
Q1030	8-729-034-69	TRANSISTOR 2SC4627J-C(TXD)	
Q1033	8-729-425-50	TRANSISTOR 2SB1462-Q	
Q1034	8-729-425-50	TRANSISTOR 2SB1462-Q	
Q1036	8-729-425-50	TRANSISTOR 2SB1462-Q	
Q1037	8-729-034-69	TRANSISTOR 2SC4627J-C(TXD)	
Q1038	8-729-429-18	TRANSISTOR UN9213	
Q1039	8-729-429-18	TRANSISTOR UN9213	
Q1040	8-729-429-18	TRANSISTOR UN9213	
Q1041	8-729-425-64	TRANSISTOR 2SD2216-Q	
Q1043	8-729-807-86	TRANSISTOR 2SB1295-UL5	
Q1044	8-729-429-18	TRANSISTOR UN9213	
Q1045	8-729-429-18	TRANSISTOR UN9213	
Q1100	8-729-028-13	TRANSISTOR 2SA1885-TL	
Q1135	8-729-034-69	TRANSISTOR 2SC4627J-C(TXD)	
Q1136	8-729-429-18	TRANSISTOR UN9213	
Q1139	8-729-031-69	TRANSISTOR 2SA1965-TL	
Q1140	8-729-429-18	TRANSISTOR UN9213	
Q1151	8-729-425-64	TRANSISTOR 2SD2216-Q	
Q1201	8-729-425-64	TRANSISTOR 2SD2216-Q	
Q1202	8-729-425-50	TRANSISTOR 2SB1462-Q	
Q1203	8-729-425-64	TRANSISTOR 2SD2216-Q	
Q1220	8-729-429-18	TRANSISTOR UN9213	
Q1221	8-729-429-18	TRANSISTOR UN9213	
Q1222	8-729-037-58	TRANSISTOR UN9110J-(TX).SO	
Q1305	8-729-425-64	TRANSISTOR 2SD2216-Q	
Q1361	8-729-425-64	TRANSISTOR 2SD2216-Q (SC55)	
Q1362	8-729-425-64	TRANSISTOR 2SD2216-Q (SC55)	
Q1363	8-729-425-50	TRANSISTOR 2SB1462-Q (SC55)	
Q1364	8-729-425-50	TRANSISTOR 2SB1462-Q (SC55)	
Q1751	8-729-425-64	TRANSISTOR 2SD2216-Q	
Q1851	8-729-425-64	TRANSISTOR 2SD2216-Q	
Q1852	8-729-427-70	TRANSISTOR XP4401	
Q1853	8-729-230-63	TRANSISTOR 2SC4116-YG	
Q2101	8-729-425-64	TRANSISTOR 2SD2216-Q	
Q2102	8-729-425-64	TRANSISTOR 2SD2216-Q	
Q2103	8-729-425-64	TRANSISTOR 2SD2216-Q	

Ref. No.	Part No.	Description	Remark
Q2105	8-729-425-64	TRANSISTOR 2SD2216-Q	
		< RESISTOR >	
R617	1-216-804-11	METAL CHIP 39 5% 1/16W	
R618	1-216-804-11	METAL CHIP 39 5% 1/16W	
R619	1-216-804-11	METAL CHIP 39 5% 1/16W	
R620	1-216-803-11	METAL CHIP 33 5% 1/16W	
R621	1-216-803-11	METAL CHIP 33 5% 1/16W	
R622	1-216-803-11	METAL CHIP 33 5% 1/16W	
R623	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R624	1-218-959-11	METAL GLAZE 3.3K 5% 1/16W	
R625	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R626	1-218-957-11	METAL GLAZE 2.2K 5% 1/16W	
R628	1-218-957-11	METAL GLAZE 2.2K 5% 1/16W	
R629	1-218-957-11	METAL GLAZE 2.2K 5% 1/16W	
R630	1-218-990-11	CONDUCTOR, CHIP (1005)	
R1001	1-218-950-11	METAL GLAZE 560 5% 1/16W	
R1002	1-218-939-11	METAL GLAZE 68 5% 1/16W	
R1003	1-218-935-11	METAL GLAZE 33 5% 1/16W	
R1004	1-218-961-11	METAL GLAZE 4.7K 5% 1/16W	
R1005	1-218-957-11	METAL GLAZE 2.2K 5% 1/16W	
R1006	1-218-945-11	METAL GLAZE 220 5% 1/16W	
R1007	1-218-946-11	METAL GLAZE 270 5% 1/16W	
R1008	1-218-960-11	METAL GLAZE 3.9K 5% 1/16W	
R1009	1-218-971-11	METAL GLAZE 33K 5% 1/16W	
R1010	1-218-969-11	METAL GLAZE 22K 5% 1/16W	
R1011	1-218-960-11	METAL GLAZE 3.9K 5% 1/16W	
R1012	1-218-960-11	METAL GLAZE 3.9K 5% 1/16W	
R1013	1-218-960-11	METAL GLAZE 3.9K 5% 1/16W	
R1014	1-218-969-11	METAL GLAZE 22K 5% 1/16W	
R1015	1-218-969-11	METAL GLAZE 22K 5% 1/16W	
R1016	1-218-961-11	METAL GLAZE 4.7K 5% 1/16W	
R1017	1-218-961-11	METAL GLAZE 4.7K 5% 1/16W	
R1018	1-218-961-11	METAL GLAZE 4.7K 5% 1/16W	
R1019	1-218-961-11	METAL GLAZE 4.7K 5% 1/16W	
R1020	1-218-970-11	METAL GLAZE 27K 5% 1/16W	
R1022	1-218-963-11	METAL GLAZE 6.8K 5% 1/16W	
R1023	1-218-948-11	METAL GLAZE 390 5% 1/16W	
R1024	1-218-948-11	METAL GLAZE 390 5% 1/16W	
R1025	1-218-970-11	METAL GLAZE 27K 5% 1/16W	
R1027	1-218-963-11	METAL GLAZE 6.8K 5% 1/16W	
R1028	1-218-970-11	METAL GLAZE 27K 5% 1/16W	
R1030	1-218-963-11	METAL GLAZE 6.8K 5% 1/16W	
R1031	1-218-970-11	METAL GLAZE 27K 5% 1/16W	
R1033	1-218-963-11	METAL GLAZE 6.8K 5% 1/16W	
R1034	1-218-948-11	METAL GLAZE 390 5% 1/16W	
R1035	1-218-948-11	METAL GLAZE 390 5% 1/16W	
R1037	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R1038	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R1039	1-218-929-11	METAL GLAZE 10 5% 1/16W	

Ref. No.	Part No.	Description	Remark
R1040	1-218-875-11	METAL CHIP 15K 0.50% 1/16W	
R1041	1-218-968-11	METAL GLAZE 18K 5% 1/16W	
R1045	1-218-961-11	METAL GLAZE 4.7K 5% 1/16W	(SC55)
R1045	1-218-963-11	METAL GLAZE 6.8K 5% 1/16W	(SC55E)
R1046	1-218-968-11	METAL GLAZE 18K 5% 1/16W	
R1047	1-218-971-11	METAL GLAZE 33K 5% 1/16W	
R1048	1-218-965-11	METAL GLAZE 10K 5% 1/16W	(SC55E)
R1049	1-218-948-11	METAL GLAZE 390 5% 1/16W	
R1050	1-218-950-11	METAL GLAZE 560 5% 1/16W	
R1051	1-218-967-11	METAL GLAZE 15K 5% 1/16W	(SC55E)
R1051	1-218-968-11	METAL GLAZE 18K 5% 1/16W	(SC55)
R1054	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R1055	1-218-949-11	METAL GLAZE 470 5% 1/16W	
R1056	1-218-929-11	METAL GLAZE 10 5% 1/16W	
R1061	1-218-987-11	METAL GLAZE 680K 5% 1/16W	
R1062	1-218-985-11	METAL GLAZE 470K 5% 1/16W	
R1076	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R1080	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R1081	1-218-957-11	METAL GLAZE 2.2K 5% 1/16W	
R1082	1-218-969-11	METAL GLAZE 22K 5% 1/16W	
R1083	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R1084	1-218-969-11	METAL GLAZE 22K 5% 1/16W	
R1085	1-218-969-11	METAL GLAZE 22K 5% 1/16W	
R1086	1-218-950-11	METAL GLAZE 560 5% 1/16W	
R1087	1-218-955-11	METAL GLAZE 1.5K 5% 1/16W	(SC55E)
R1087	1-218-957-11	METAL GLAZE 2.2K 5% 1/16W	(SC55)
R1088	1-218-949-11	METAL GLAZE 470 5% 1/16W	
R1089	1-218-961-11	METAL GLAZE 4.7K 5% 1/16W	
R1090	1-218-990-11	CONDUCTOR, CHIP (1005)	
R1097	1-218-956-11	METAL GLAZE 1.8K 5% 1/16W	
R1098	1-218-952-11	METAL GLAZE 820 5% 1/16W	
R1100	1-218-948-11	METAL GLAZE 390 5% 1/16W	
R1101	1-218-952-11	METAL GLAZE 820 5% 1/16W	
R1103	1-218-947-11	METAL GLAZE 330 5% 1/16W	(SC55)
R1103	1-218-949-11	METAL GLAZE 470 5% 1/16W	(SC55E)
R1104	1-218-947-11	METAL GLAZE 330 5% 1/16W	(SC55)
R1104	1-218-949-11	METAL GLAZE 470 5% 1/16W	(SC55E)
R1106	1-218-948-11	METAL GLAZE 390 5% 1/16W	
R1107	1-218-949-11	METAL GLAZE 470 5% 1/16W	
R1108	1-218-952-11	METAL GLAZE 820 5% 1/16W	(SC55)
R1108	1-218-990-11	CONDUCTOR, CHIP (1005)	(SC55E)
R1110	1-218-937-11	METAL GLAZE 47 5% 1/16W	
R1111	1-218-958-11	METAL GLAZE 2.7K 5% 1/16W	
R1112	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R1113	1-218-990-11	CONDUCTOR, CHIP (1005)	
R1114	1-218-947-11	METAL GLAZE 330 5% 1/16W	
R1115	1-218-949-11	METAL GLAZE 470 5% 1/16W	
R1116	1-218-947-11	METAL GLAZE 330 5% 1/16W	(SC55E)
R1116	1-218-950-11	METAL GLAZE 560 5% 1/16W	(SC55)
R1117	1-218-947-11	METAL GLAZE 330 5% 1/16W	(SC55)

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Ref. No.	Part No.	Description	Remark
R1117	1-218-948-11	METAL GLAZE 390 5% 1/16W	(SC55E)
R1118	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R1119	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R1120	1-218-949-11	METAL GLAZE 470 5% 1/16W	
R1121	1-218-949-11	METAL GLAZE 470 5% 1/16W	
R1122	1-218-971-11	METAL GLAZE 33K 5% 1/16W	
R1123	1-218-969-11	METAL GLAZE 22K 5% 1/16W	
R1124	1-218-969-11	METAL GLAZE 22K 5% 1/16W	
R1125	1-218-947-11	METAL GLAZE 330 5% 1/16W	(SC55)
R1125	1-218-949-11	METAL GLAZE 470 5% 1/16W	(SC55E)
R1128	1-218-952-11	METAL GLAZE 820 5% 1/16W	
R1129	1-218-990-11	CONDUCTOR, CHIP (1005)	
R1131	1-218-960-11	METAL GLAZE 3.9K 5% 1/16W	
R1134	1-218-948-11	METAL GLAZE 390 5% 1/16W	
R1135	1-218-944-11	METAL GLAZE 180 5% 1/16W	
R1136	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R1137	1-218-961-11	METAL GLAZE 4.7K 5% 1/16W	
R1138	1-218-961-11	METAL GLAZE 4.7K 5% 1/16W	
R1141	1-216-295-91	CONDUCTOR, CHIP (2012)	
R1142	1-218-952-11	METAL GLAZE 820 5% 1/16W	(SC55E)
R1142	1-218-953-11	METAL GLAZE 1K 5% 1/16W	(SC55)
R1143	1-218-965-11	METAL GLAZE 10K 5% 1/16W	(SC55)
R1150	1-218-969-11	METAL GLAZE 22K 5% 1/16W	
R1151	1-218-957-11	METAL GLAZE 2.2K 5% 1/16W	
R1152	1-218-954-11	METAL GLAZE 1.2K 5% 1/16W	
R1153	1-218-948-11	METAL GLAZE 390 5% 1/16W	
R1154	1-218-966-11	METAL GLAZE 12K 5% 1/16W	
R1155	1-218-964-11	METAL GLAZE 8.2K 5% 1/16W	
R1156	1-218-954-11	METAL GLAZE 1.2K 5% 1/16W	
R1157	1-218-944-11	METAL GLAZE 180 5% 1/16W	
R1159	1-218-990-11	CONDUCTOR, CHIP (1005)	
R1160	1-218-951-11	METAL GLAZE 680 5% 1/16W	
R1162	1-218-966-11	METAL GLAZE 12K 5% 1/16W	
R1163	1-218-964-11	METAL GLAZE 8.2K 5% 1/16W	
R1164	1-218-953-11	METAL GLAZE 1K 5% 1/16W	(SC55)
R1165	1-218-941-11	METAL GLAZE 100 5% 1/16W	
R1213	1-218-962-11	METAL GLAZE 5.6K 5% 1/16W	
R1215	1-218-941-11	METAL GLAZE 100 5% 1/16W	
R1216	1-218-967-11	METAL GLAZE 15K 5% 1/16W	
R1217	1-218-959-11	METAL GLAZE 3.3K 5% 1/16W	
R1218	1-218-957-11	METAL GLAZE 2.2K 5% 1/16W	
R1219	1-218-963-11	METAL GLAZE 6.8K 5% 1/16W	
R1221	1-218-952-11	METAL GLAZE 820 5% 1/16W	
R1222	1-218-952-11	METAL GLAZE 820 5% 1/16W	
R1223	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R1224	1-218-964-11	METAL GLAZE 8.2K 5% 1/16W	
R1225	1-218-961-11	METAL GLAZE 4.7K 5% 1/16W	
R1226	1-218-966-11	METAL GLAZE 12K 5% 1/16W	
R1227	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R1228	1-218-967-11	METAL GLAZE 15K 5% 1/16W	
R1230	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R1231	1-218-989-11	METAL GLAZE 1M 5% 1/16W	
R1232	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R1233	1-218-954-11	METAL GLAZE 1.2K 5% 1/16W	
R1234	1-218-972-11	METAL GLAZE 39K 5% 1/16W	
R1235	1-218-990-11	CONDUCTOR, CHIP (1005)	
R1236	1-218-959-11	METAL GLAZE 3.3K 5% 1/16W	
R1237	1-218-959-11	METAL GLAZE 3.3K 5% 1/16W	
R1238	1-218-959-11	METAL GLAZE 3.3K 5% 1/16W	
R1239	1-218-959-11	METAL GLAZE 3.3K 5% 1/16W	
R1240	1-218-959-11	METAL GLAZE 3.3K 5% 1/16W	
R1241	1-218-959-11	METAL GLAZE 3.3K 5% 1/16W	
R1242	1-218-959-11	METAL GLAZE 3.3K 5% 1/16W	
R1246	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R1247	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R1248	1-218-959-11	METAL GLAZE 3.3K 5% 1/16W	
R1249	1-218-959-11	METAL GLAZE 3.3K 5% 1/16W	
R1250	1-218-990-11	CONDUCTOR, CHIP (1005)	
R1251	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R1252	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R1253	1-218-951-11	METAL GLAZE 680 5% 1/16W	
R1254	1-218-961-11	METAL GLAZE 4.7K 5% 1/16W	
R1255	1-218-949-11	METAL GLAZE 470 5% 1/16W	
R1256	1-218-948-11	METAL GLAZE 390 5% 1/16W	
R1280	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R1281	1-218-954-11	METAL GLAZE 1.2K 5% 1/16W	
R1283	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R1284	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R1285	1-218-989-11	METAL GLAZE 1M 5% 1/16W	
R1286	1-216-864-11	METAL CHIP 0 5% 1/16W	
R1290	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R1292	1-218-977-11	METAL GLAZE 100K 5% 1/16W	
R1293	1-218-971-11	METAL GLAZE 33K 5% 1/16W	
R1307	1-218-968-11	METAL GLAZE 18K 5% 1/16W	(SC55E)
R1307	1-218-969-11	METAL GLAZE 22K 5% 1/16W	(SC55)
R1308	1-218-969-11	METAL GLAZE 22K 5% 1/16W	
R1312	1-218-966-11	METAL GLAZE 12K 5% 1/16W	
R1313	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R1314	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R1315	1-218-947-11	METAL GLAZE 330 5% 1/16W	
R1316	1-218-947-11	METAL GLAZE 330 5% 1/16W	
R1318	1-218-966-11	METAL GLAZE 12K 5% 1/16W	
R1319	1-218-964-11	METAL GLAZE 8.2K 5% 1/16W	
R1321	1-218-876-11	METAL CHIP 16K 0.50% 1/16W	
R1322	1-218-847-11	METAL CHIP 1K 0.50% 1/16W	
R1323	1-218-964-11	METAL GLAZE 8.2K 5% 1/16W	
R1324	1-218-966-11	METAL GLAZE 12K 5% 1/16W	
R1330	1-218-954-11	METAL GLAZE 1.2K 5% 1/16W	
R1331	1-218-955-11	METAL GLAZE 1.5K 5% 1/16W	
R1332	1-218-990-11	CONDUCTOR, CHIP (1005)	(SC55E)

Ref.No.	Part No.	Description	Remark
R1361	1-218-973-11	METAL GLAZE 47K 5% 1/16W	(SC55)
R1362	1-218-965-11	METAL GLAZE 10K 5% 1/16W	(SC55)
R1363	1-218-969-11	METAL GLAZE 22K 5% 1/16W	(SC55)
R1364	1-218-973-11	METAL GLAZE 47K 5% 1/16W	(SC55)
R1365	1-218-979-11	METAL GLAZE 150K 5% 1/16W	(SC55)
R1366	1-218-953-11	METAL GLAZE 1K 5% 1/16W	(SC55)
R1367	1-218-965-11	METAL GLAZE 10K 5% 1/16W	(SC55)
R1368	1-218-977-11	METAL GLAZE 100K 5% 1/16W	(SC55)
R1370	1-218-957-11	METAL GLAZE 2.2K 5% 1/16W	(SC55)
R1371	1-218-965-11	METAL GLAZE 10K 5% 1/16W	(SC55)
R1651	1-218-990-11	CONDUCTOR, CHIP (1005)	
R1652	1-218-972-11	METAL GLAZE 39K 5% 1/16W	
R1653	1-218-990-11	CONDUCTOR, CHIP (1005)	
R1751	1-218-974-11	METAL GLAZE 56K 5% 1/16W	
R1752	1-218-971-11	METAL GLAZE 33K 5% 1/16W	
R1753	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R1758	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R1759	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R1760	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R1761	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R1762	1-218-961-11	METAL GLAZE 4.7K 5% 1/16W	
R1763	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R1764	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R1772	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R1773	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R1774	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R1775	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R1776	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R1779	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R1780	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R1781	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R1782	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R1783	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R1784	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R1785	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R1786	1-218-990-11	CONDUCTOR, CHIP (1005)	
R1787	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R1789	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R1790	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R1791	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R1792	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R1793	1-218-977-11	METAL GLAZE 100K 5% 1/16W	
R1794	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R1795	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R1796	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R1798	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R1803	1-218-965-11	METAL GLAZE 10K 5% 1/16W	(SC55E)
R1803	1-218-961-11	METAL GLAZE 4.7K 5% 1/16W	(SC55)
R1804	1-218-989-11	METAL GLAZE 1M 5% 1/16W	
R1805	1-218-988-11	METAL GLAZE 820K 5% 1/16W	

Ref.No.	Part No.	Description	Remark
R1806	1-218-967-11	METAL GLAZE 15K 5% 1/16W	
R1807	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R1808	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R1809	1-218-990-11	CONDUCTOR, CHIP (1005)	
R1810	1-218-957-11	METAL GLAZE 2.2K 5% 1/16W	
R1811	1-218-957-11	METAL GLAZE 2.2K 5% 1/16W	
R1812	1-218-969-11	METAL GLAZE 22K 5% 1/16W	
R1813	1-218-977-11	METAL GLAZE 100K 5% 1/16W	
R1814	1-218-990-11	CONDUCTOR, CHIP (1005)	
R1821	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R1822	1-218-977-11	METAL GLAZE 100K 5% 1/16W	
R1823	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R1826	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R1851	1-217-671-11	METAL CHIP 1 5% 1/10W	
R1852	1-217-671-11	METAL CHIP 1 5% 1/10W	
R1853	1-217-671-11	METAL CHIP 1 5% 1/10W	
R1855	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R1856	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R1857	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R1859	1-218-990-11	CONDUCTOR, CHIP (1005)	
R1860	1-218-990-11	CONDUCTOR, CHIP (1005)	
R1861	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R1862	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R1863	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R1864	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R1865	1-218-983-11	METAL GLAZE 330K 5% 1/16W	
R1866	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R1867	1-218-977-11	METAL GLAZE 100K 5% 1/16W	
R1868	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R1869	1-216-017-91	METAL GLAZE 47 5% 1/10W	
R1872	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R1873	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R1874	1-218-959-11	METAL GLAZE 3.3K 5% 1/16W	
R1875	1-218-974-11	METAL GLAZE 56K 5% 1/16W	
R1876	1-218-957-11	METAL GLAZE 2.2K 5% 1/16W	(SC55E)
R1876	1-218-965-11	METAL GLAZE 10K 5% 1/16W	(SC55)
R1877	1-218-973-11	METAL GLAZE 47K 5% 1/16W	
R1878	1-218-965-11	METAL GLAZE 10K 5% 1/16W	(SC55E)
R1878	1-218-969-11	METAL GLAZE 22K 5% 1/16W	(SC55)
R1880	1-218-969-11	METAL GLAZE 22K 5% 1/16W	
R1881	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R1882	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R1883	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R1884	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R1887	1-218-990-11	CONDUCTOR, CHIP (1005)	
R1889	1-217-671-11	METAL CHIP 1 5% 1/10W	
R1890	1-217-671-11	METAL CHIP 1 5% 1/10W	
R1891	1-218-959-11	METAL GLAZE 3.3K 5% 1/16W	
R1892	1-218-977-11	METAL GLAZE 100K 5% 1/16W	
R1895	1-216-609-11	METAL CHIP 18 0.5% 1/10W	

VD-25

Ref. No.	Part No.	Description	Remark
R1897	1-218-990-11	CONDUCTOR, CHIP (1005)	
R1898	1-218-961-11	METAL GLAZE 4.7K 5% 1/16W	
R2101	1-218-970-11	METAL GLAZE 27K 5% 1/16W	
R2102	1-218-971-11	METAL GLAZE 33K 5% 1/16W	
R2103	1-218-951-11	METAL GLAZE 680 5% 1/16W	
R2104	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R2105	1-218-944-11	METAL GLAZE 180 5% 1/16W	
R2108	1-218-956-11	METAL GLAZE 1.8K 5% 1/16W	
R2109	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R2110	1-218-948-11	METAL GLAZE 390 5% 1/16W	
R2111	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R2112	1-218-958-11	METAL GLAZE 2.7K 5% 1/16W	
R2113	1-218-952-11	METAL GLAZE 820 5% 1/16W	
R2116	1-218-949-11	METAL GLAZE 470 5% 1/16W	
R2117	1-218-948-11	METAL GLAZE 390 5% 1/16W	
R2119	1-218-958-11	METAL GLAZE 2.7K 5% 1/16W	
R2120	1-218-951-11	METAL GLAZE 680 5% 1/16W	
R2121	1-218-957-11	METAL GLAZE 2.2K 5% 1/16W	
R2122	1-218-965-11	METAL GLAZE 10K 5% 1/16W	
R2124	1-218-961-11	METAL GLAZE 4.7K 5% 1/16W	
R2127	1-218-961-11	METAL GLAZE 4.7K 5% 1/16W	
R2128	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R2130	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R2131	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R2132	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R2133	1-218-953-11	METAL GLAZE 1K 5% 1/16W	
R2134	1-218-953-11	METAL GLAZE 1K 5% 1/16W	

< VIBRATOR >

Ref. No.	Part No.	Description	Remark
X1305	1-767-029-21	VIBRATOR, CRYSTAL (17MHz)	
X1751	1-760-655-41	VIBRATOR, CRYSTAL (20MHz)	
X1752	1-767-030-21	VIBRATOR, CRYSTAL (11.89MHz) (SC55)	
X1752	1-767-031-21	VIBRATOR, CRYSTAL (11.7MHz) (SC55E)	

MISCELLANEOUS
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Ref. No.	Part No.	Description	Remark
9	1-660-664-11	FP-358 FLEXIBLE BOARD	
120	1-660-655-11	FP-343 FLEXIBLE BOARD	
211	1-547-931-11	LENS, ZOOM (VCL-4210VA)	
213	1-547-767-41	FILTER BLOCK, OPTICAL	
215	1-660-653-11	FP-340 FLEXIBLE BOARD	
251	1-547-931-11	LENS, ZOOM (VCL-4210VA)	
802	A-7049-716-A	MOTOR BLOCK ASSY (STATOR)	
805	1-698-729-11	MOTOR, DRUM (LOWER ROTOR)	
806	A-7049-495-A	DRUM ASSY, UPPER (DGR-89-R(1)) (SC55) (COLOR MARK: GREEN, GREEN/RED, BLACK, BLACK/RED)	
806	A-7049-498-A	DRUM ASSY, UPPER (DGR-89-R(2)) (SC55) (COLOR MARK: RED, RED/RED, BLUE, BLUE/RED)	
806	A-7049-461-A	DRUM ASSY, UPPER (DGR-80-R(1)) (SC55E) (COLOR MARK: GREEN, GREEN/RED, BLACK, BLACK/RED)	
806	A-7049-464-A	DRUM ASSY, UPPER (DGR-80-R(2)) (SC55E) (COLOR MARK: RED, RED/RED, BLUE, BLUE/RED)	
810	1-657-785-11	FP-248 FLEXIBLE BOARD	
⚠BL001	1-517-525-21	TUBE, FLUORESCENT, COLD CATHODE	
IC351	A-7030-638-A	CCD BLOCK ASSY (079 SERVICE) (CCD IMAGER) (SC55)	
IC351	A-7030-659-A	CCD BLOCK ASSY (071 SERVICE) (CCD IMAGER) (SC55E)	
LCD901	1-801-190-11	DISPLAY MODULE, LIQUID CRYSTAL	
LCD902	1-801-241-21	DISPLAY PANEL, LIQUID CRYSTAL	
M901	A-7048-814-A	DRUM ASSY (DGH-89G-R) (SC55)	
M901	A-7048-816-A	DRUM ASSY (DGH-80F-R) (SC55E)	
M902	1-698-735-12	MOTOR, CAPSTAN	
M903	X-3946-019-1	MOTOR ASSY, L (LOADING)	
M904	3-709-098-01	MOTOR UNIT, FOCUS	
M905	3-709-097-01	MOTOR UNIT, ZOOM	
MIC1	1-542-286-11	MICROPHONE ASSY (STEREO)	
RV901	1-225-225-11	RES, VAR (ZOOM) 20K	
S001	1-572-288-11	SWITCH, PUSH (C.C. LOCK)	
S002	1-692-614-11	SWITCH, PUSH (3 KEY) (Hi8 MP, REC PROOF, ME/MP)	
SE791	1-801-216-31	SENSOR, ANGULAR VELOCITY (PITCH)	
SE792	1-801-216-41	SENSOR, ANGULAR VELOCITY (YAW)	
SP901	1-505-278-11	SPEAKER (DIA 2.3CM)	
W701	1-660-656-11	FP-344 FLEXIBLE BOARD	
W702	1-660-659-11	FP-348 FLEXIBLE BOARD	

ACCESSORIES & PACKING MATERIALS
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Ref. No.	Part No.	Description	Remark
	1-573-291-11	CONNECTOR, CONVERSION (SC55E:AEP, UK)	
	1-573-856-11	ADAPTOR, CHANGE (SC55)	
	1-765-080-11	CORD, CONNECTION (A/V connecting cable, 1.5m)	
	1-776-841-11	CORD, CONNECTION (DK-626 connecting cable, 2m)	
	3-810-885-11	MANUAL, INSTRUCTION (ENGLISH, SPANISH) (SC55E:AEP, UK)	
	3-810-885-21	MANUAL, INSTRUCTION (ENGLISH, SPANISH) (SC55)	
	3-810-885-31	MANUAL, INSTRUCTION (FRENCH) (SC55:CND)	
	3-810-885-41	MANUAL, INSTRUCTION (GERMAN, ITALIAN) (SC55E:AEP)	
	3-810-885-51	MANUAL, INSTRUCTION (FRENCH, DUTCH) (SC55E:AEP)	
	3-810-885-61	MANUAL, INSTRUCTION (SWEDISH, PORTUGUESE) (SC55E:AEP)	
	3-810-885-71	MANUAL, INSTRUCTION (CHINESE) (SC55:HK)	
	3-856-559-11	MANUAL, INSTRUCTION (ENGLISH, RUSSIAN) (SC55E:E, AUS, HK)	

Be sure to read "Note on the CCD Imager replacement" on page 4–8 when changing the CCD imager.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
	3-856-559-21	MANUAL, INSTRUCTION (FRENCH, GERMAN) (SC55E:E)	
	3-856-559-31	MANUAL, INSTRUCTION (CHINESE) (SC55E:E, HK)	
	3-856-559-41	MANUAL, INSTRUCTION (ARABIC, PERSIAN) (SC55E:E)	
	3-947-969-21	BELT (S), SHOULDER	
*	3-970-796-01	CUSHION	
*	3-970-797-01	INDIVIDUAL CARTON (SC55E:AEP, UK)	
*	3-970-797-11	INDIVIDUAL CARTON (SC55E:E, AUS, HK)	
*	3-970-797-21	INDIVIDUAL CARTON (SC55)	
*	3-970-799-01	CUSHION, ACC	
	8-917-540-90	REMOCON RMT-715//M SET (SC55/SC55E:E, AUS, HK)	
	8-917-541-90	REMOCON RMT-716//M SET (SC55E:AEP, UK)	
	A-7083-226-A	HOOD BLOCK ASSY	
**	AC-V615	AC POWER ADAPTOR	
***	NP-F530	BATTERY PACK	

Note.

** MARK PARTS IS AVAILABLE FOR REPAIR SERVICE.

*** MARK PARTS IS AVAILABLE AS AN OPTIONAL ACCESSORY.

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HARDWARE LIST

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Ref. No.	Part No.	Description
#1	7-685-204-19	SCREW +KTP 2X6 TYPE2 NON-SLIT

SECTION 6
ADJUSTMENTS

6-1. CAMERA SECTION ADJUSTMENTS

When performing adjustments, refer to the layout diagrams for adjustment related parts beginning from page 6–30.

1-1. PREPARATIONS BEFORE ADJUSTMENT (CAMERA SECTION)

1-1-1. List of Service Tools

- Oscilloscope
- Adjusting driver
- Color monitor
- Regulated power supply
- Vectorscope
- Digital voltmeter

Ref. No.	Name	Parts Code	Usage
J-1	Filter for color temperature correction (C14)	J-6080-058-A	Auto white balance adjustment/check White balance adjustment/check
J-2	ND filter 1.0	J-6080-808-A	White balance check
	ND filter 0.3	J-6080-818-A	White balance check
J-3	Pattern box PTB-450	J-6082-200-A	
J-4	Color chart for pattern box	J-6020-250-A	
J-5	Adjusting remote commander (RM-95-remodeled partly)Note 1	J-6082-053-B	
J-6	Siemens star	J-6080-875-A	For checking the flange back
J-7	Multi CPC jig	J-6082-311-A	For adjusting LCD block
J-8	CPC-5 jig	J-6082-351-A	For connecting the adjusting remote commander For adjusting the video section
J-9	Power code	J-6082-233-A	For connecting the battery terminal and DC power supply
J-10	AFM DEV jig	J-6082-312-A	For adjusting the deviation
J-11	Extension cable (100P, 0.5 mm)	J-6082-352-A	For extension between the VA-96 board (CN60) and VD-25 board (CN1)
J-12	Clear chart	J-6080-621-A	

Note 1: If the micro processor IC in the adjusting remote commander is not the new micro processor (UPD7503G-C56-12), the pages cannot be switched. In this case, replace with the new micro processor (8-759-148-35).

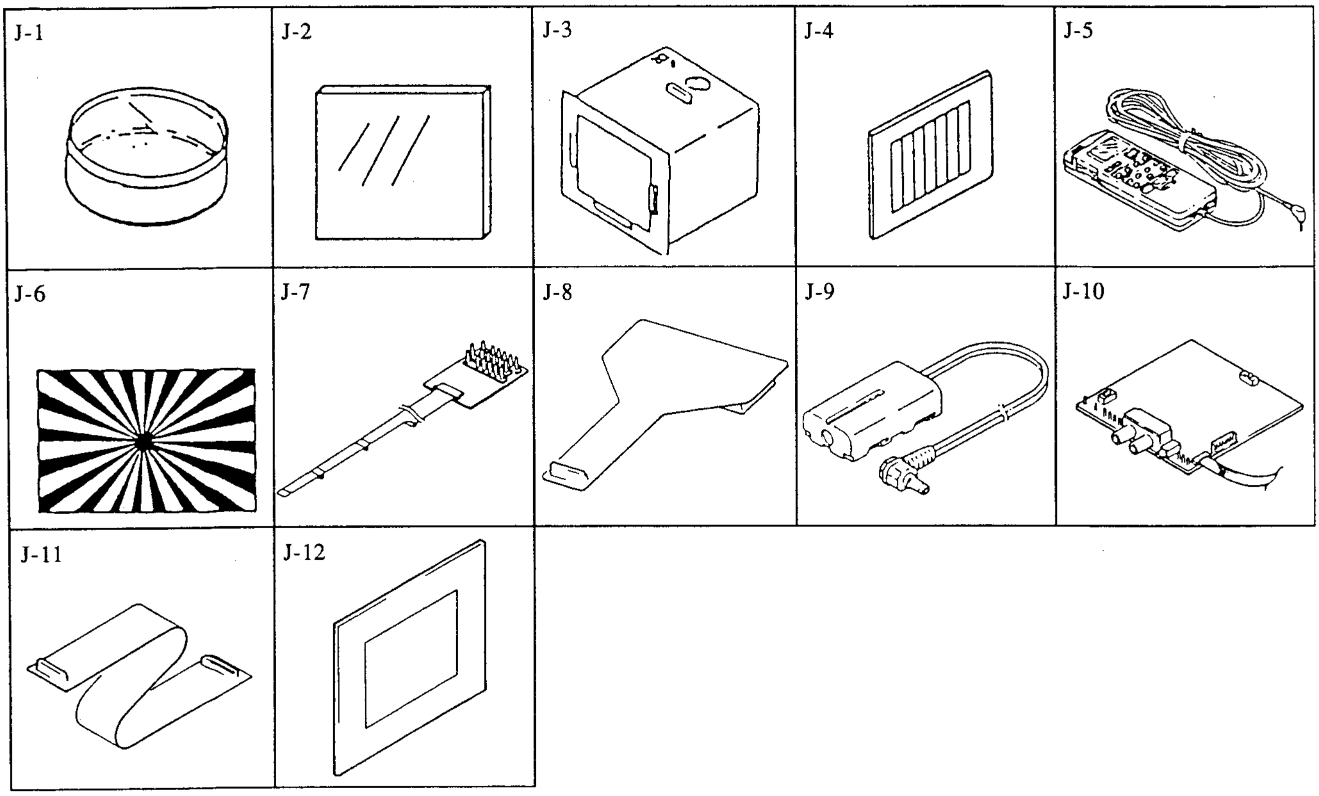

J-1
J-2
J-3
J-4
J-5
J-6
J-7
J-8
J-9
J-10
J-11
J-12

Fig. 6-1-1.

1-1-2. Preparations

Note 1: Refer to "2. Removal" for details of how to remove the cabinet and boards.

1) Connect the adjusting devices according to Fig. 6-1-3.
2) Connect the adjusting remote commander to CN4 of the VD-25 board via the CPC5 tool (J-6082-351-A).
3) The MA-260 board of the front cabinet need not be connected. To remove, disconnect the following connector.
   1. VA-96 board CN51 (27P, 0.3 mm)
4) Menu settings cannot be performed when the LCD block is removed. To remove, disconnect the following connector.
   1. VA-96 board (CN52 39P, 0.3 mm)
5) When the side cabinet (FP-357 board, FP-358 board) is removed, the lithium 3V power supply will be disconnected as well, and all the data such as date, time, user settings made will be lost.
   After completing adjustments, set these data again. In addition, each time the power (7.2V) is turned OFF and then ON, the menu settings will be reset, and digital zoom and vibration correction will turn ON. When performing adjustments, turn OFF these two functions. To remove the side cabinet, disconnect the following connector.
   1. VA-96 board CN372 (40P, 0.5 mm)
6) Even if the rear cabinet control key board (KY-33 board) and power supply switch board (FP-348 board) have been removed, the power can be turned ON by setting the ''forced camera power supply ON mode" (Note 2). Carry out camera operations using the adjusting remote commander. To remove the control key board, disconnect the following connector.
   1. VA-96 board CN53 (14P, 0.5 mm)

After completing adjustments, be sure to exit the "forced camera power supply ON mode" (Note 3).

Note 2: Setting the "forced camera power supply ON mode"
1) Set data: 01 to page: 0, address: 01.
2) Set data: 21 to page: D, address: 10, and press the PAUSE button of the adjusting remote commander.

The camera power supply can be turned ON even if the cabinet (R) has been removed using the above steps. After completing adjustments, be sure to exit the "forced power supply ON mode".

Note 3: Exiting the "forced camera ON mode"
1) Set data: 01 to page: 0, address: 01.
2) Set data: 00 to page: D, address: 10, and press the PAUSE button of the adjusting remote commander.
3) Set data: 00 to page: 1, address: 01.

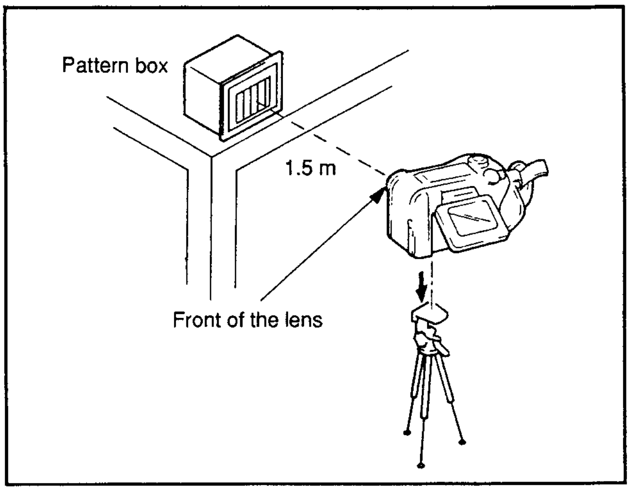


Fig. 6-1-2.

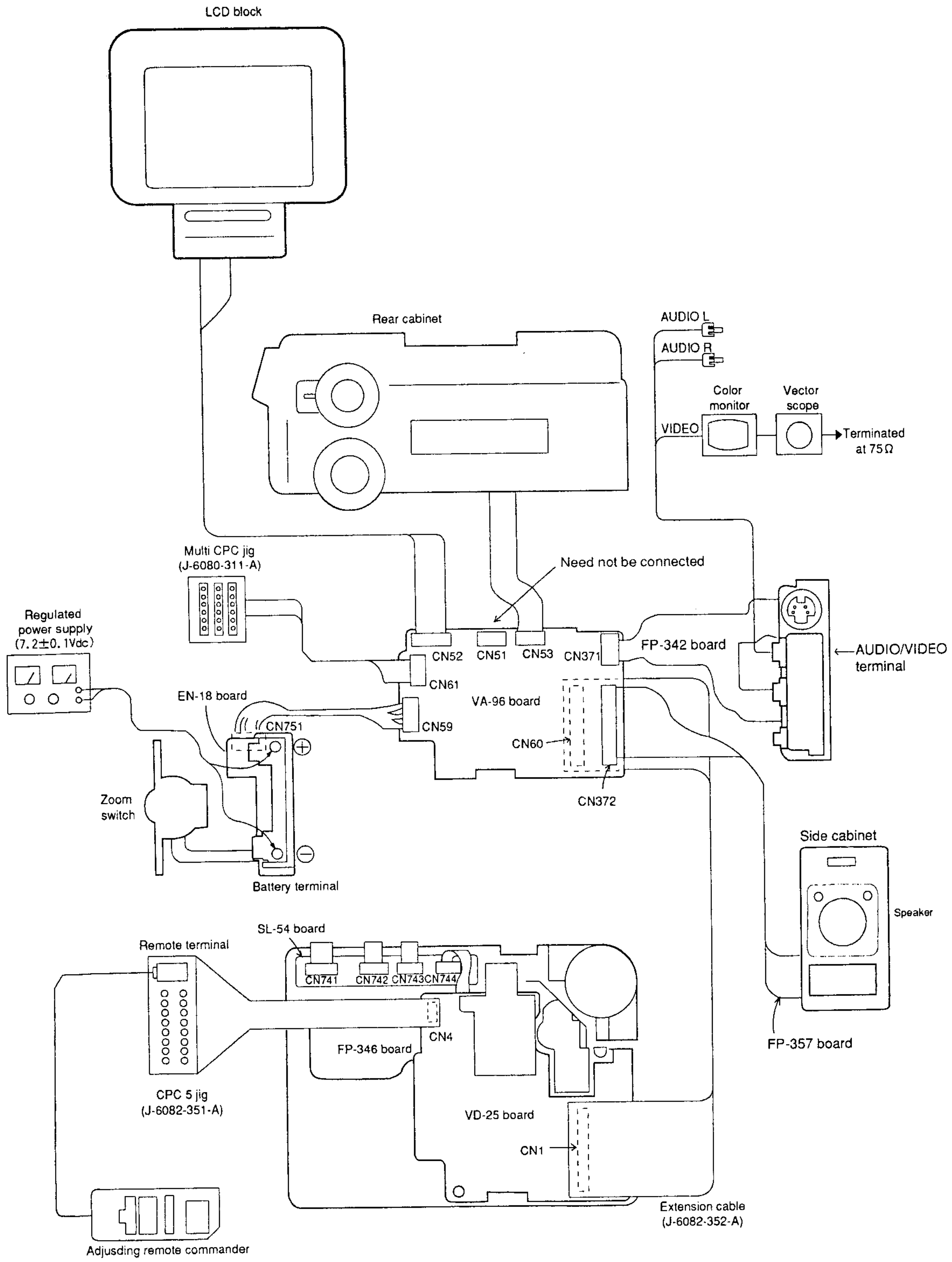

LCD block
Rear cabinet
AUDIO L
AUDIO R
Color monitor
Vector scope
VIDEO
Terminated at 75Ω
Need not be connected
Multi CPC jig (J-6080-311-A)
Regulated power supply (7.2±0.1Vdc)
CN52
CN51
CN53
CN371
FP-342 board
AUDIO/VIDEO terminal
CN61
VA-96 board
EN-18 board
CN751
CN59
CN60
CN372
Zoom switch
Battery terminal
Side cabinet
Speaker
SL-54 board
Remote terminal
CN741
CN742
CN743
CN744
CN4
FP-346 board
FP-357 board
CPC 5 jig (J-6082-351-A)
VD-25 board
CN1
Extension cable (J-6082-352-A)
Adjusding remote commander

Fig. 6-1-3.

1-1-3. Precautions

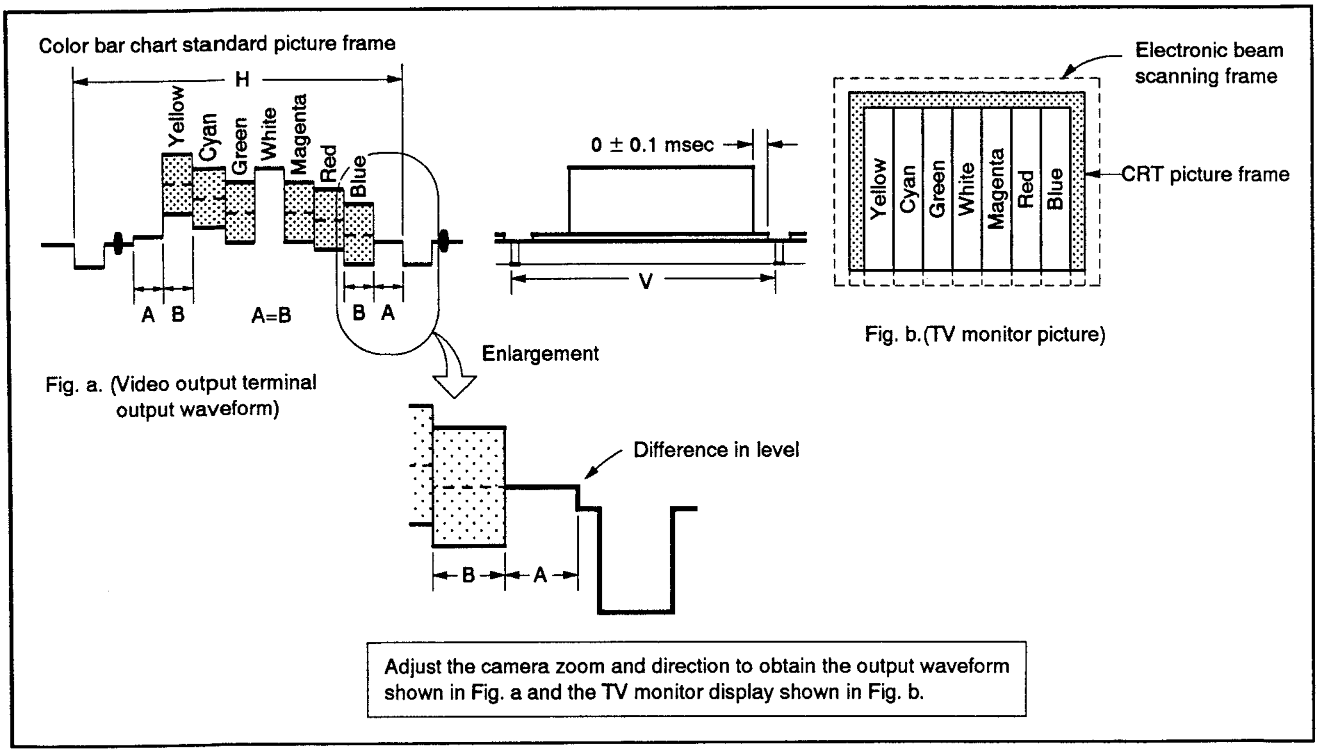
1. Switch settings

Adjust the switches to the following positions, and adjust without loading the cassette tape, unless specified otherwise.

1. Camera/player power switch (FP-348 board)....... Camera
2. Digital zoom switch (Menu display) .... Off
3. Steady shot switch (Menu display)............................. Off
4. Focus lock switch (S701 on KY-33 board) .... Off
5. Back light switch (S754 on FP-342 board) .... Off
6. 16:9 WIDE button (S711 on KY-33 board) .... Off
7. Picture effect button (S706 on KY-33 board) .... Off

2. Adjusting Procedure

Adjust in the given order.


Color bar chart standard picture frame
H
Yellow
Cyan
Green
White
Magenta
Red
Blue
A B
A=B
B A
Fig. a. (Video output terminal output waveform)
0 ± 0.1 msec
V
Enlargement
Difference in level
B
A
Electronic beam scanning frame
CRT picture frame
Yellow
Cyan
Green
White
Magenta
Red
Blue
Fig. b.(TV monitor picture)

Adjust the camera zoom and direction to obtain the output waveform shown in Fig. a and the TV monitor display shown in Fig. b.

Fig. 6-1-4.

3. Subject

1) Color bar chart (Standard picture frame)
   Adjust the picture frame as shown in Fig. 6-1-4. if adjustments are performed using the color bar chart. (Standard picture frame)
2) White pattern (Standard picture frame)
   Remove the color bar chart from the pattern box, and insert a clear chart in its place. (Do not perform zoom operations during this time.)
3) Chart for flange back adjustment
   Combine a white A0 size (1189 mm x 841 mm) paper to a black one, and make the chart shown in Fig. 6-1-5.

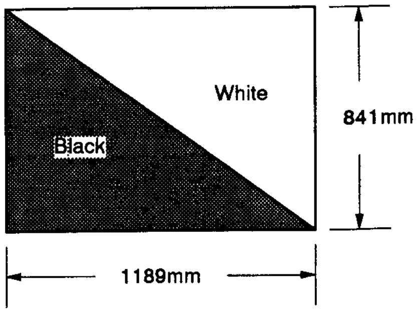

White
Black
841mm
1189mm

Fig. 6-1-5.

Note: Use the non-reflecting and non-glazing vellum paper whose size is more than A0, and make the boundary between white and black to be smoothly flat.

1-1-4. Page F Addrress

Note 1: The ← mark shown in the adjustment data memory column indicates that the address data is fixed and is the same as the initial value.

Note 2: The initial adjustment data value is the value after "Page F, Page E Data Initialization" and "Page F Data Modification" have been executed. It is different from the value after all adjustments have been executed.

Note 3: ( ): CCD-SC55E (AEP, UK model)
[ ]: CCD-SC55E (E, Australian, Hong Kong model)

Address	Adjustment Data		
	Initial Value		Memo Column
	NTSC	PAL	
00			
01			
02			
03			
04			
05			
06			
07			
08			
09			
0A			
0B			
0C			
0D			
0E			
0F			
10	00	00	
11	00	00	
12	00	00	
13	00	00	
14	00	00	
15	00	00	
16	00	00	
17	00	00	
18	00	00	
19	00	00	
1A	00	00	
1B	00	00	
1C	76	77	←
1D	00	00	←
1E	21	21	←
1F	12	12	←
20	00	02	←
21	01	03	←
22	3B	3B	←
23	00	00	←

Table 6-1-1 (1).

Address	Adjustment Data		
	Initial Value		Memo Column
	NTSC	PAL	
24	7C	7C	←
25	00	00	←
26	1F	1F	←
27	41	(40)[41]	←
28	44	44	←
29	00	00	←
2A	FE	FE	
2B	3B	3B	
2C	77	77	
2D	56	56	
2E	CD	CD	
2F	19	19	
30	92	92	
31	21	21	
32	12	12	
33	14	14	
34	00	00	
35	00	00	
36	00	00	
37	80	80	
38	80	80	
39	80	80	
3A	20	20	
3B	80	80	
3C	80	80	
3D	40	40	
3E	1B	1B	
3F	1B	1B	
40	AE	AE	
41	42	42	
42	44	44	
43	34	34	
44	2A	2A	
45	89	89	
46	59	59	
47	38	38	
48	41	41	
49	41	41	
4A	00	00	
4B	19	19	
4C	00	00	
4D	2E	2E	
4E	00	00	
4F	00	00	

Table 6-1-1 (2).

Address	Adjustment Data		
	Initial Value		Memo Column
	NTSC	PAL	
50	00	00	
51	00	00	
52	80	80	
53	80	80	
54	00	00	
55	00	00	
56	00	00	
57	00	00	
58	00	00	
59	8B	5E	
5A	CA	7C	
5B	AA	7B	
5C	3C	3C	
5D	00	00	
5E	7A	7A	
5F	8D	8D	
60	7A	7A	
61	3A	3A	
62	C0	C0	
63	00	00	
64	A2	A2	
65	50	50	
66	8A	8A	
67	D8	D8	
68	46	60	
69	5A	40	
6A	35	20	
6B	00	F8	
6C	A6	AA	
6D	29	65	
6E	A2	A2	
6F	6A	70	
70	D5	D5	
71	D5	D5	
72	D5	D5	
73	D5	D5	
74	00	00	
75	00	00	
76	BC	BC	
77	BC	BC	
78	BC	BC	
79	BC	BC	
7A	00	00	
7B	00	00	

Table 6-1-1 (3).

Address	Adjustment Data		
	Initial Value		Memo Column
	NTSC	PAL	
7C	00	00	
7D	00	00	
7E	00	00	
7F	00	00	
80	7C	7C	
81	80	80	
82	0C	0C	←
83	19	01	←
84	77	77	←
85	40	40	←
86	75	75	←
87	73	84	←
88	12	12	←
89	96	A9	←
8A	A5	A5	←
8B	68	68	←
8C	4A	4A	←
8D	F0	F0	←
8E	00	00	←
8F	01	01	←
90	68	28	←
91	80	60	←
92	10	40	←
93	31	39	←
94	68	2A	←
95	70	60	←
96	40	40	←
97	2E	39	←
98	58	28	←
99	A0	80	←
9A	30	40	←
9B	14	30	←
9C	58	28	←
9D	C0	FF	←
9E	30	40	←
9F	26	01	←
A0	78	28	←
A1	70	BB	←
A2	4C	30	←
A3	06	00	←
A4	58	28	←
A5	D0	FF	←
A6	60	30	←
A7	0F	00	←

Table 6-1-1 (4).

Address	Adjustment Data		
	Initial Value		Memo Column
	NTSC	PAL	
A8	62	60	←
A9	91	91	←
AA	62	60	←
AB	A2	92	←
AC	60	60	←
AD	91	A2	←
AE	62	60	←
AF	A2	A3	←
B0	04	04	←
B1	E5	D5	←
B2	04	04	←
B3	F7	D6	←
B4	40	40	←
B5	00	00	←
B6	B3	B3	←
B7	B3	B3	←
B8	21	10	←
B9	05	01	←
BA	11	10	←
BB	03	03	←
BC	71	40	←
BD	15	32	←
BE	00	00	←
BF	00	00	←
C0	22	22	←
C1	80	80	←
C2	22	22	←
C3	20	20	←
C4	40	40	←
C5	00	00	←
C6	40	40	←
C7	00	00	←
C8	00	00	←
C9	27	27	←
CA	CA	D2	←
CB	00	00	←
CC	50	50	←
CD	C4	C4	←
CE	1B	1B	←
CF	D8	D8	←
D0	A0	A0	←
D1	30	28	←
D2	10	0D	←
D3	C0	C0	←

Table 6-1-1 (5).

Address	Adjustment Data		
	Initial Value		Memo Column
	NTSC	PAL	
D4	6A	6A	←
D5	40	40	←
D6	60	40	←
D7	55	55	←
D8	66	66	←
D9	25	25	←
DA	34	34	←
DB	3F	3F	←
DC	95	95	←
DD	00	00	←
DE	00	00	←
DF	00	00	
E0	F7	F5	
E1	1A	1A	←
E2	33	33	←
E3	FE	FE	←
E4	3C	3C	←
E5	24	24	←
E6	83	83	←
E7	A0	A0	←
E8	67	67	←
E9	4D	4D	←
EA	33	33	←
EB	5C	5C	←
EC	5C	5C	←
ED	5C	5C	←
EE	3C	3C	←
EF	0F	0F	←
F0	10	10	←
F1	2C	2C	←
F2	0A	0A	←
F3	36	36	←
F4	72	72	←
F5	46	46	←
F6	E0	E0	←
F7	50	50	←
F8	3B	3B	←
F9	10	10	←
FA	E8	E8	←
FB	90	90	←
FC	00	00	←
FD	02	02	←
FE	F0	F0	←
FF	80	80	←

Table 6-1-1 (6).

1-1-5. Page E Addrress

Note 1: The ← mark shown in the adjustment data memory column indicates that the address data is fixed and is the same as the initial value.

Note 2: The initial adjustment data value is the value after "Page F, Page E Data Initialization" and "Page E Data Modification" have been executed. It is different from the value after all adjustments have been executed.

Address	Adjustment Data		
	Initial Value		Memo Column
	NTSC	PAL	
00	52	52	←
01	89	89	←
02	15	15	←
03	4F	4F	←
04	5D	5D	←
05	66	66	←
06	93	93	←
07	AA	AA	←
08	64	64	←
09	44	44	←
0A	A2	A2	←
0B	92	92	←
0C	63	63	←
0D	68	68	←
0E	61	61	←
0F	33	33	←
10	05	05	←
11	F3	F3	←
12	9A	9A	←
13	88	88	←
14	EA	EA	←
15	28	28	←
16	2D	2D	←
17	EA	EA	←
18	00	00	←
19	0B	0B	←
1A	00	00	←
1B	0C	0C	←
1C	10	10	←
1D	0C	0C	←
1E	D8	D8	←
1F	00	00	←
20	00	00	←
21	00	00	←
22	00	00	←
23	00	00	←
24	00	00	←
25	00	00	←

Table 6-1-2 (1).

Address	Adjustment Data		
	Initial Value		Memo Column
	NTSC	PAL	
26	01	01	←
27	40	40	←
28	40	40	←
29	00	00	←
2A	00	00	←
2B	00	00	←
2C	10	10	←
2D	20	20	←
2E	25	25	←
2F	80	80	←
30	00	00	←
31	00	00	←
32	00	00	←
33	00	00	←
34	00	00	←
35	00	00	←
36	20	20	←
37	30	30	←
38	20	20	←
39	50	40	←
3A	2C	2A	←
3B	4C	3A	←
3C	24	20	←
3D	26	24	←
3E	0A	0A	←
3F	07	07	←
40	CC	28	←
41	00	00	←
42	40	40	←
43	1E	1E	←
44	00	00	←
45	F8	F8	←
46	30	22	←
47	10	10	←
48	04	08	←
49	04	04	←
4A	6C	6C	←
4B	00	00	←
4C	77	95	←
4D	41	41	←
4E	02	02	←
4F	1F	1F	←
50	FA	FA	←
51	F8	F8	←

Table 6-1-2 (2).

Address	Adjustment Data		
	Initial Value		Memo Column
	NTSC	PAL	
52	9C	9C	←
53	8E	8E	←
54	74	74	←
55	5F	5F	←
56	4A	4A	←
57	3F	3F	←
58	2F	2F	←
59	10	10	←

Table 6-1-2 (3).

1-2. CAMERA SYSTEM ADJUSTMENTS

1. Initialization of E, F Page Data

Note: If the E, and F page data has been initialized, the "Camera System Adjustments", "Servo System Adjustments", "Video System Adjustments", and "Audio System Adjustments" need to be performed again.

Initializing method:

Adjusting page	E
Adjusting address	00 to 59
Adjusting page	F
Adjusting address	10 to FF

1) Set data: 01 to page: 0, address: 01.
2) Set data: 2D to page: 2, address: 00.
3) Set data: 2D to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
4) Check that the data of page: 2, address: 02 is 01.
5) Set data: 00 to page: 0, address: 01.

2. Modification of F Page Data

If the E and F page data has been initialized, change the data as shown in the table on the right by manual input.

Note 1: Before changing the data, set data: 01 to page: 0, address: 01.

Note 2: To write in the non-volatile memory (EEPROM) after changing the data, press the PAUSE button of the adjusting remote commander each time to set the new data.

Note 3: After changing the data, set data: 00 to page: 0, address: 01. Also perform "Camera System Adjustments", "Servo System Adjustments", "Video System Adjustments", and "Audio System Adjustments".

Address	NTSC	PAL
1C	76	77
20	00	
21		03
27	41	(40)[41]
28	44	44
59	8B	5E
5A	CA	7C
5B	AA	7B
61	3A	3A
68	46	60
69	5A	40
6A	35	20
6B	00	F8
6C	A6	AA
6D	29	65
6F	6A	70
83	19	
85	40	40
87		84
89		A9
8F	01	01
90	68	28
91	80	60
92	10	40
93	31	39
94	68	2A
95	70	60
96	40	40
97	2E	39
98	58	28
99	A0	80
9A	30	40
9B	14	30
9C	58	28
9D	C0	FF
9E	30	40
9F	26	01
A0	78	28
A1	70	BB
A2	4C	30
A3	06	00
A4	58	28

Address	NTSC	PAL
A5	D0	FF
A6	60	30
A7	0F	00
A8	62	60
A9	91	91
AA	62	60
AB	A2	92
AD	91	A2
AE	62	60
AF	A2	A3
B1	E5	D5
B3	F7	D6
B4	40	40
B8	21	10
B9	05	01
BA	11	10
BB	03	03
BC	71	40
BD	15	32
CA		D2
D1	30	28
D2	10	0D
D6		40
DF	00	00
E0	F7	F5
E1	1A	1A
E2	33	33
E9	4D	4D
F9	10	10
FF	80	80

Note: ( ): CCD-SC55E (AEP, UK model)
[ ]: CCD-SC55E (E, Australian, Hong Kong model)

3. Modification of E Page Data

If the E and F page data has been initialized, change the data as shown in the following table by manual input.

Note 1: Before changing the data, set data: 01 to page: 0, address: 01.

Note 2: To write in the non-volatile memory (EEPROM) after changing the data, press the PAUSE button of the adjusting remote commander each time to set the new data.

Note 3: After changing the data, set data: 00 to page: 0, address: 01. Also perform "Camera System Adjustments", "Servo System Adjustments", "Video System Adjustments", and "Audio System Adjustments".

Address	NTSC	PAL
03	4F	4F
04	5D	5D
05	66	66
12	9A	9A
13	88	88
14	EA	EA
15	28	28
36	20	20
37	30	30
38	20	20
39	50	40
3A	2C	2A
3B	4C	3A
3C	24	20
3D	26	24
40	CC	28
46	30	22
48	04	08
4B	00	00
4C	77	95
4E	02	02
50	FA	FA

4. 28MHz Original Oscillation Adjustment (CH-92 board)

Adjust the 28 MHz oscillation of the synchronization clock. If the oscillation is not 28 MHz, the period will be inaccurate or the image will not be in color.

Subject	Arbitrary
Measurement Point	Pin ⑫ of IC202 on CH-92 board or Pin ㊿ of IC114 on VD-25 board
Measuring Instrument	Frequency counter
Adjustment Page	F
Adjustment Address	3A
Specified Value	f = 14318181 ± 71 Hz (NTSC) f = 14187500 ± 70 Hz (PAL)

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Change the data of page: F, address: 3A, and adjust the oscillation frequency to the specified value.
3) Press the PAUSE button of the adjusting remote commander.
4) Set data: 00 to page: 0, address: 01.

5. HALL Adjustment

For detecting the position of the lens iris, adjust the hall AMP gain and hall offset.

Subject	Not required
Measurement Point	DDS display of LCD or monitor TV
Measuring Instrument	
Adjustment Page	F
Adjustment Address	3B, 3C
Specified Value	13 to 17 during IRIS OPEN (Note 1) 7C to 80 during IRIS CLOSE (Note 2)

Note 1: Set data: 01 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.

Note 2: Set data: 03 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Set data: 03 to page: 0, address: 03.
3) Set data: 21 to page: D, address: 10, and press the PAUSE button of the adjusting remote commander.
4) Set data: 03 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
5) Set data: 80 to page: F, address: 3C, and press the PAUSE button of the adjusting remote commander.
6) Set data: 40 to page: F, address: 3B, and press the PAUSE button of the adjusting remote commander.
7) Read the DDS display data (the bottom two digits of the display data at the bottom right of the LCD or the monitor TV display), and this data is named W_2.
8) Set data: 30 to page: F, address: 3B, and press the PAUSE button of the adjusting remote commander.
9) Read the DDS display data, and this data is named W_1.
10) Set data: 01 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
11) Read the DDS display data, and this data is named K_1.
12) Set data: 40 to page: F, address: 3B, and press the PAUSE button.
13) Read the DDS display data, and this data is named K_2.
14) Convert W_1, W_2, K_1, K_2 to decimal notation, and obtain W_1', W_2', K_1', K_2'. (Refer to Table 6-4-2. "Hexadecimal notation-decimal notation conversion table" of "Data processing" of "Service mode".)
15) Calculate X_1' using the following equations (decimal notation calculation).

    $A' = W_2' + K_1' - W_1' - K_2'$ .... Equation 1

    $B' = W_1' - K_1'$ .... Equation 2

    $X_1' = \frac{1680 + (48 \times A') - (16 \times B')}{A'}$ .... Equation 3
16) Convert X_1' to hexadecimal notation, and obtain X_1. (Round off to one decimal place)
17) Set data: X_1 to page: F, address: 3B, and press the PAUSE button of the adjusting remote commander.
18) Change the data of page: F, address: 3C, and adjust the DDS display data to "15".
19) Press the PAUSE button of the adjusting remote commander.
20) Set data: 03 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
21) Read the DDS display data, and this data is named W_0. If W0 lies within the "7C" to "80" range, perform "Processing after completing adjustments". If it lies outside the range, perform the following adjustments.
22) Convert W_0 to decimal notation, and obtain W_0'.
23) Calculate X_2' using the following equations (decimal notation calculation).

    $C' = W_0' - B' - 21$ .... Equation 4

    $X_2' = \frac{(105 - B') \times (X_1' - 48) + 48 \times C'}{C'}$ .... Equation 5

    (X_1' and B' are values obtained from equations 2 and3)
24) Convert X_2' to hexadecimal notation and obtain X_2. (Round off to one decimal place)
25) Set data X_2 to page: F, address: 3B, and press the PAUSE button of the adjusting remote commander.
26) Change the data of page: F, address: 3C, and adjust the DDS display data to "7E".
27) Press the PAUSE button of the adjusting remote commander.
28) Set data: 01 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
29) Check that the DDS display data lies within the "13" to "17" range.

Processing after Completing Adjustments

1) Set data: 00 to page: D, address: 10, and press the PAUSE button of the adjusting remote commander.
2) Set data: 00 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
3) Set data: 00 to page: 0, address: 03.
4) Set data: 00 to page: 0, address: 01.

6. Flange Back Adjustment

The inner focus lens flange back adjustment is carried out automatically. In whichever case, the focus will be deviated during auto focusing/manual focusing.

Subject	Flange back adjustment chart (2 m from the front of the lens) (Luminance: 300 ± 50 lux)
Measurement Point	Check operations on TV monitor
Measuring Instrument	
Adjustment Page	F
Adjustment Address	2E to 33, 49 to 4D

Switch setting:
1) STEADY SHOT (Menu display) .... OFF
2) DIGITAL ZOOM (Menu display) .... OFF

Adjusting method:
1) Check that at both the zoom lens TELE terminal and WIDE terminal, the center of the chart for the flange back adjustment and center of the exposure screen coincide.
2) Set data: 01 to page: 0, address: 01.
3) Check that the data of page: F, address: 2E to 33, 49 to 4D is the initial value (see table below).

Address	Data	Address	Data
2E	CD	33	14
2F	19	49	41
30	92	4A	00
31	21	4B	19
32	12	4C	00

4) Check that the data of page: 2, address: 02 is 00.
5) Set data: 13 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
6) Set data: 15 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
(The adjustment data will be automatically input to page: F, address: 2E to 33, 49 to 4D.)
7) Check that the data of page: 2, address: 02 is "01".

Processing after Completing Adjustments
1) Set data: 00 to page: 0, address: 01.
2) Turn OFF the main power supply (7.2V)

7. Flange Back Check

Subject	Siemens star (2m from the front of the lens Luminance: approx. 200 lux)
Measurement Point	Check the operation on the TV monitor
Measuring Instrument	
Specified Value	Focused at the TELE end and WIDE end.

Switch setting:
1) STEADY SHOT (Menu display) .... OFF
2) DIGITAL ZOOM (Menu display) .... OFF

Checking method:
1) Place the Siemens star 2m from the front of the protection glass.
2) To open the IRIS, decrease the luminous intensity to the Siemens star up to a point before noise appears on the image.
3) Shoot the siemens star with the zoom TELE end.
4) Turn on the auto focus.
5) Check that the lens is focused (Note 1), and turn off the auto focus
6) Set data: 10 to page: 2, address: 21.
7) Shoot the siemens star with the zoom WIDE end.
8) Check that the lens is focused.

Note 1: When the auto focus is ON, the lens can be checked if it is focused or not by observing the data on page 1 of the adjusting remote commander.
1) Set data: 0F to page: 0, address: 03.
2) Page 1 shows the state of the focus.

1:00:XX
→ (Odd: Focused
Even:Unfocused

Processing after Completing Adjustments
1) Set data: 00 to page: 2, address: 21.
2) Set data: 00 to page: 0, address: 03.

8. Picture Frame Setting

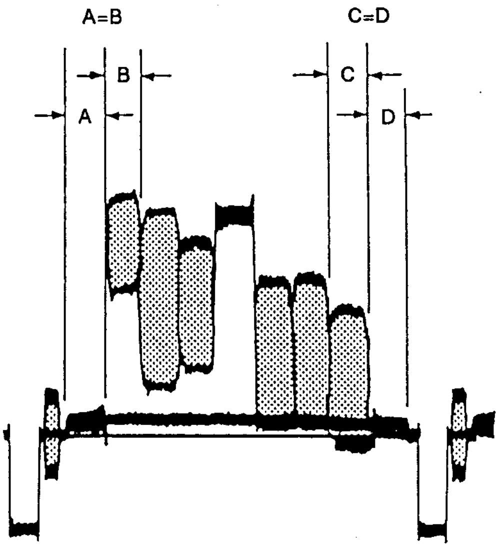
Subject	Color bar chart standard picture frame (1.5m from the front of the lens)
Measurement Point	Video output terminal
Measuring Instrument	Oscilloscope and TV monitor.
Specified Value	A = B, C = D, t = 0 ± 0.1 msec

Setting method:

1) Adjust the zoom and the camera direction, and set to the specified position.
2) Mark the position of the picture frame on the monitor display, and adjust the picture frame to this position in following adjustments using "color bar chart standard picture frame".

Check on the oscilloscope

1. horizontal period



2. Vertical period

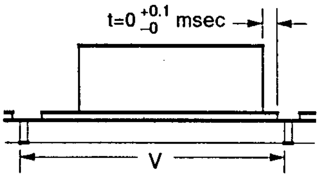

$t=0^{+0.1}_{-0}$ msec
V

Fig. 6-1-6.

Check on the TV monitor

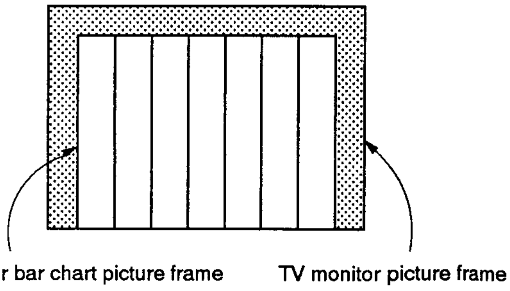

Color bar chart picture frame
TV monitor picture frame

Fig. 6-1-7.

9. Color Reproduction Adjustment

Adjust the color separation matrix coefficient so that the proper color reproduction is produced.

Subject	Color bar chart standard picture frame
Measurement Point	Video output terminal
Measuring Instrument	Vectorscope
Adjustment Page	F
Adjustment Address	3F, 41, DF, E0
Specified Value	All color luminance points should settle within each color reproduction frame.

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Set data: 3D to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
3) Set data: 3F to page: F, address: 22, and press the PAUSE button of the adjusting remote commander.
4) Adjust the GAIN and PHASE of the vectorscope, and adjust the burst luminance point to the burst position of the color reproduction frame.
5) Change the data of addresses 3F, 41, DF and E0 of page: F, and settle each color luminance point in each color reproduction frame.

   Note 1: Be sure to press the PAUSE button of the adjusting remote commander before changing the addresses.
   If not, the new data will not be written to the memory.
6) Press the PAUSE button of the adjusting remote commander.

Processing after Completing Adjustments

1) Set data: 00 to page: 2, address: 01 and press the PAUSE button of the adjusting remote commander.
2) Set data: 00 to page: 0, address: 01.

For NTSC model

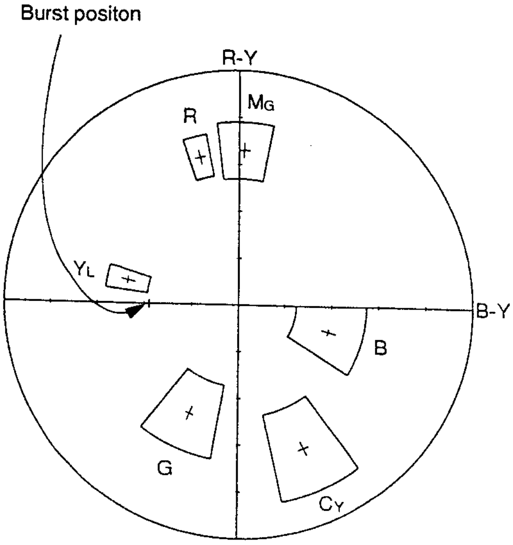


Fig. 6-1-8.

For PAL model

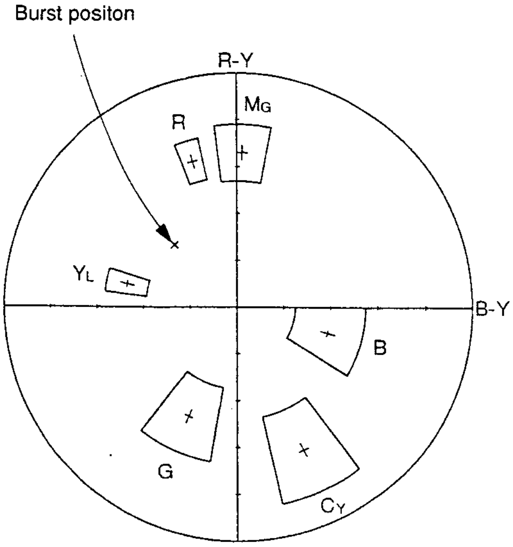


Fig. 6-1-9.

10. IRIS IN/OUT Adjustment

For the unit to judge if the white balance is indoors or outdoors in auto white balance operations, measure the light level and write it in the EEPROM.

If the level is not correct, the white balance will not be accurate.

Subject	Clear chart (Color bar standard picture frame)
Measurement Point	DDS display of LCD or TV monitor
Measuring Instrument	
Adjustment Page	F
Adjustment Address	47, 48

Switch setting:

1) STEADY SHOT (Menu display) .... OFF
2) DIGITAL ZOOM (Menu display) .... OFF

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Set data: 06 to page: 0, address: 03.
3) Set data: 21 to page: D, address: 10, and press the PAUSE button of the adjusting remote commander.
4) Set data: 0B to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
5) Read the DDS display data (Note 1), and take the upper two digits as D_1 and the lower two as D_2.
6) Convert D_1 to a decimal number and obtain D_1'. (Refer to Table 6-4-2. "Hexadecimal Notation-Decimal Notation Conversion Table" of "Data processing" of "Service mode".)
7) Calculate D_3' using the following equations. (Equations 1 and 2 are for decimal notation calculation)

   When $D_2 \geq D_0$

   $D_3' = D_1' - 21$ .... Equation 1

   When $D_2 < D_0$

   $D_3' = D_1' - 22$ .... Equation 2
8) Convert D_3' to a hexadecimal number and obtain D_3.
9) Set D_3 to page: F, address: 47, and press the PAUSE button of the adjusting remote commander.
10) Set data: 09 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
11) Read the DDS display data (Note 1), and take the upper two digits as D_4 and the lower two as D_5.
12) Convert D_4 to a decimal number and obtain D_4'. (Refer to Table 6-4-2. "Hexadecimal Notation-Decimal Notation Conversion Table" of "Data processing" of "Service mode".)
13) Calculate D_6' using the following equations. (Equations 3 and 4 are for decimal notation calculation)

    When $D_5 \geq F_0$

    $D_6' = D_4' - 13$ .... Equation 3

    When $D_5 < F_0$

    $D_6' = D_4' - 14$ .... Equation 4
14) Convert D_6' to a hexadecimal number and obtain D_6.
15) Set D_6 to page: F, address: 48, and press the PAUSE button of the adjusting remote commander.

Note 1: The right four digits of the display data at the right bottom side of the EVF and monitor TV is the LIGHT LEVEL data. If the lower digits change severely and cannot be read, record it on a tape once, play it back by frame feeding, and obtain the average value.

Processing after Completing Adjustments

1) Set data: 00 to page: D, address: 10, and press the PAUSE button of the adjusting remote commander.
2) Set data: 00 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
3) Set data: 00 to page: 0, address: 03.
4) Set data: 00 to page: 0, address: 01.

11. MAX GAIN Adjustment

Correct difference in the max gain value caused by the minimum subject luminance level setting.

If the value varies, the video level required for low luminance cannot be obtained. (the image will become dark.)

Subject	Clear chart (Color bar standard picture frame)
Measurement Point	Y terminal of S VIDEO terminal (Terminated at 75 Ω)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	3D
Specified Value	A = 410 ± 10 mV (NTSC) A = 350 ± 10 mV (PAL)

Switch setting:

1) STEADY SHOT (Menu display) .... OFF
2) DIGITAL ZOOM (Menu display) .... OFF

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Set data: 19 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
3) Change the data of page: F, address: 3D and set the Y signal level (A) to the specified value.
4) Press the PAUSE button of the adjusting remote commander.

Processing after completing adjustments

1) Set data: 00 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
2) Set data: 00 to page: 0, address: 01.

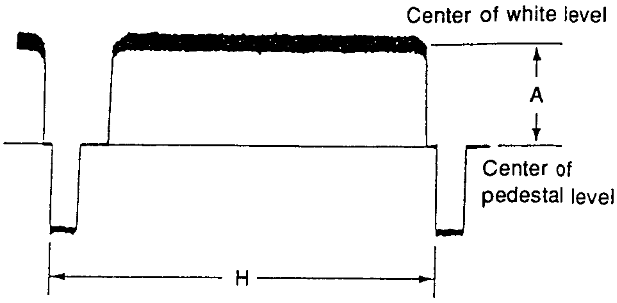


Fig. 6-1-10.

12. Auto White Balance Standard Data Input

Subject	Clear chart (Color bar standard picture frame)
Adjustment Page	F
Adjustment Address	2A to 2D

Switch setting:
1) STEADY SHOT (Menu display) .... OFF
2) DIGITAL ZOOM (Menu display) .... OFF

Note 1: Perform "Color Reproduction Adjustment" before this adjustment.

Note 2: Check that the data of page: 2, address: 02 is 00. If not, turn the power of the unit OFF/ON.

Adjusting method:
1) Set data: 01 to page: 0, address: 01.
2) Wait for 2 seconds.
3) Set data: 11 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
4) Set data: 0D to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander. (When the standard data is taken in, the data will be automatically input to addresses 2A to 2D of page F.)
5) Check that the data of page: 2, address: 02 is 01.
6) Perform "Auto White Balance Adjustment".

Processing after Completing Adjustments
1) Set data: 00 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
2) Set data: 00 to page: 0, address: 01.

13. Auto White Balance Adjustment

Adjust to the proper auto white balance output data.
If it is not correct, auto white balance and color reproducibility will be poor.

Subject	Clear chart (Color bar standard picture frame)
Filter	Filter C14 for color temperature correction
Measurement Point	Check with the DDS display on the
Measuring Instrument	LCD or TV monitor
Adjustment Page	F
Adjustment Address	45, 46
Specified Value	R ratio: 2B40 to 2BC0 B ratio: 5E40 to 5EC0

Switch setting:
1) STEADY SHOT (Menu display) .... OFF
2) DIGITAL ZOOM (Menu display) .... OFF

Note: Perform "Auto White Balance Standard Data Input" befor this adjustment.

Adjusting method:
1) Place the C14 filter for color temperature correction on the lens.
2) Set data: 01 to page: 0, address: 01.
3) Set data: 21 to page: D, address: 10, and press the PAUSE button of the adjusting remote commander.
4) Set data: 3F to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
5) Set data: 04 to page: 0, address: 03.
6) Change the data of page: F, address: 45, and adjust the average value of the DDS display data (the display data at the bottom right of the LCD or the TV monitor) to the R ratio specified value.
7) Press the PAUSE button of the adjusting remote commander.
8) Set data: 05 to page: 0, address: 03.
9) Change the data of page: F, address: 46, and adjust the average value of the DDS display data to the B ratio specified value.
10) Press the PAUSE button of the adjusting remote commander.

Processing after Completing Adjustments
1) Set data: 00 to page: D, address: 10, and press the PAUSE button of the adjusting remote commander.
2) Set data: 00 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
3) Set data: 00 to page: 0, address: 03.
4) Set data: 00 to page: 0, address: 01.

14. White Balance Check

Subject	Clear chart (Color bar standard picture frame)
Filter	Filter C14 for color temperature correction ND filter 1.0 and 0.3
Measurement Point	Video output terminal
Measuring Instrument	Vectorscope
Specified Value	Fig. 6-1-11. A to C

Checking method:

1) Check that the lens is not covered with either filter.
2) Set data: 0F to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
3) Check that the center of the white luminance point is within the circle shown in Fig. 6-1-11.A.
4) Set data: 00 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
5) Set data: 23 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
6) Place the C14 filter on the lens.
7) Check that the center of the white luminance point settles in the circle shown in Fig. 6-1-11. B.
8) Remove the C14 filter, and place the ND filter 1.3 (1.0+0.3) on the lens.
9) Check that the white luminance point stopped moving, and then remove the ND filter 1.3.
10) Check that the center of the white luminance point settles in the circle shown in Fig. 6-1-11. C.

Processing after Completing Adjustments

1) Set data: 00 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.

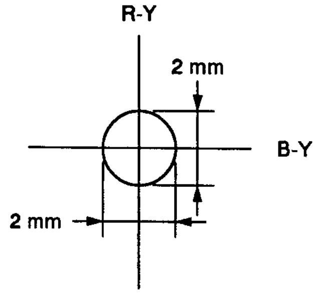


Fig. 6-1-11. A

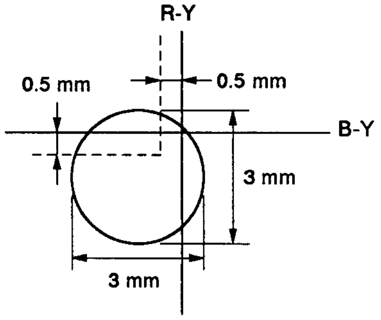


Fig. 6-1-11. B

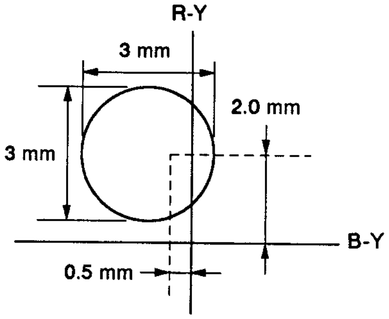


Fig. 6-1-11. C

15. Vibration Correction Angular Velocity Sensor Sensitivity Adjustment

- Perform the vibration correction adjustment only when the angular velocity sensor has been replaced. This adjustment need not be performed when the microprocessor circuit is damaged, etc. Check only the operations.

Subject	Random
Measuring point	Video output terminal
Measuring instrument	TV monitor, oscilloscope
Adjusting page	F
Adjusting address	52, 53
Specifications	Horizontal residual vibration ≤ 1.5 μsec. Vertical residual vibration ≤ 0.75 msec

Precautions on Parts Replacement

There are two types of repair parts-ENC05GA and ENC05GB. Replace the damaged sensor with the same type. If ENCO5GA and ENC05GB are attached incorrectly, the screen may shake up and down or left and right during vibration correction operations. Therefore be sure to check that they have been attached properly. After replacing, re-adjust according to the adjusting method provided.

Precautions on Angular Velocity Sensor

The sensor contains a high precision oscillator. If it is dropped accidentally, the oscillator will lose its balance, and cause incorrect operations. Therefore handle the oscillator with care.

Adjusting Method

1) Read the sensor sensitivity labeled on the correction angular velocity sensor. (Note 1)
2) Obtain D_1' using the following equation (decimal calculation).

- When adjusting SE791 (for correcting vertical direction)

$$D_1' = \frac{95}{\text{SE791 sensor sensitivity}} \quad \text{(NTSC)}$$

$$D_1' = \frac{114}{\text{SE791 sensor sensitivity}} \quad \text{(PAL)}$$

- When adjusting SE792 (for correcting horizontal direction)

$$D_1' = \frac{95}{1.04} \times \frac{1}{\text{SE792 sensor sensitivity}} \quad \text{(NTSC)}$$

$$D_1' = \frac{114}{1.23} \times \frac{1}{\text{SE792 sensor sensitivity}} \quad \text{(PAL)}$$

3) After rounding D_1 to a whole number, convert it to a hexadecimal number and take this number as D_1.
4) Set data: 01 to page: 0, address: 01.
5) Set D_1 to page: F, address: 52 or 53 (Note 2), and press the PAUSE button of the adjusting remote commander.
6) Set data;00 to page: 0, address: 01.
7) Expose any subject at the TELE end, and check that the vibration correction operation is carried out normally.

Note 1: The sensor sensitivity is labeled only on repair parts.

Note 2: Set address: 52 if the repair part is SE791 and address: 53 if SE792.

1-3. LCD SYSTEM ADJUSTMENTS

Note 1: The back light (fluorescent tube) is driven by a high voltage AC power supply. Therefore, do not touch the back light holder to avoid electrical shock.

Note 2: When replacing the LCD unit, be very careful to prevent damages caused by static electricity.

Note 3: Set "LCD BRIGHT" to the center using the "LCD BRIGHT" adjusting button (S710, 713 of the KY-33 board).

Note 4: Set the setting in the menu display to the following positions.

LCD COLOR .... Center
LCD HUE (NTSC model) .... Center

[Adjusting connector]

Most of the measuring points for adjusting the LCD display are concentrated in CN61 of the VA-96 board.

Connect the measuring instruments via the multi CPC tool (J-6082-311-A).

The following table shows the Pin No. and signal name of CN61.

Pin No.	Signal Name	Pin No.	Signal Name
1	VR	6	SYNC
2	VG	7	HSY
3	VB	8	SPD
4	COM-O	9	N.C.
5	GND		

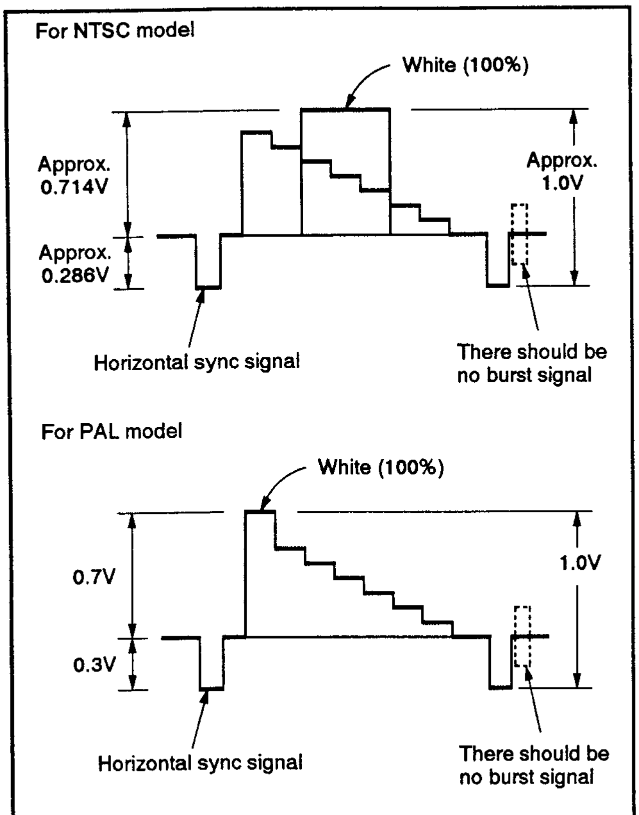
Table 6-1-3.

[Power Supply Voltage]

Adjust the power voltage so that the voltage of pins ㉜, ㉝ and ㉞ of CN801 on the PD-64 BOARD becomes 7.2 ± 0.1 Vdc.

[Video input signal for adjustment]

If stated as "cover signal whose chroma signal and burst signal have been turned off" in the signal column, input the cover signal whose chroma signal and burst signal have been turned off in the video input terminal as the video input signal for adjusting. Check that the input signal level is 1.00 Vp-p before adjusting.


For NTSC model
White (100%)
Approx. 0.714V
Approx. 1.0V
Approx. 0.286V
Horizontal sync signal
There should be no burst signal
For PAL model
White (100%)
0.7V
1.0V
0.3V
Horizontal sync signal
There should be no burst signal

Note: Set the REC mode and check the signal level.

Fig. 6-1-12. Cover Bar Signal with Chroma Signal and Burst Signal Off

1. LCD Initial Data Input

Mode	VTR stop
Signal	Random
Adjustment Page	D
Adjustment Address	3F, 52 to 63

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Select page: D, and input the data in the following table.
   Note: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjusting remote commander each time to set the data.
3) Set data: 01 to page: 0, address: 01.

Address	Data		Remarks
	NTSC	PAL	
3F	04	04	Fixed value
52	7E	72	
53	A2	6C	
54	75	A2	
55	80	81	
56	75	78	
57	91	8B	
58	77	6F	
59	6F	77	
5A	7F	7F	Fixed value
5B	7B	7B	Fixed value
5C	CA	84	
5D	7E	72	
5E	00	A2	(Fixed value: NTSC model)
5F	CA	84	
60	00	E0	Fixed value
61	00	60	Fixed value
62	64	64	Fixed value
63	A0	A0	Fixed value

2. VCO Adjustment (PD-64 board)

Set the VCO freerun frequency.
If deviated, the LCD screen will be blur.

Mode	VTR stop
Signal	No signal
Measurement Point	VA-96 board Pin ⑧ of CN61 (SPD)
Measuring Instrument	Frequency counter
Adjustment Page	D
Adjustment Address	58
Specified Value	f = 15734 ± 30 Hz (NTSC) f = 15625 ± 30 Hz (PAL)

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Set data: 03 to page: 0, address: FF.
3) Set data: 05 to page: 2, address: 01.
4) Set data: 06 to page: 3, address: 2B.
5) Set data: 06 to page: 3, address: 2C.
6) Set data: 00 to page: 0, address: FF.
7) Change the data of page: D, address 58, and set the HSY signal frequency (f) to the specified value.
8) Press the PAUSE button of the adjusting remote commander.
9) Set data: 03 to page: 0, address: FF.
10) Set data: 05 to page: 2, address: 01.
11) Set data: 00 to page: 3, address: 2B.
12) Set data: 00 to page: 3, address: 2C.
13) Set data: 00 to page: 0, address: FF.
14) Set data: 00 to page: 0, address: 01.

3. Horizontal Display Position Adjustment (PD-64 board)

Adjust the LCD horizontal position.
If deviated, the screen will deviate to the left or right.

Mode	VTR stop
Signal	Color bar
Measurement Point	CH1: VA-96 board Pin ⑥ of CN61 (SYNC) CH2: VA-96 board Pin ⑧ of CN61 (SPD)
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	5C, 5F
Specified Value	T = 1.5 ± 0.1 μsec. (NTSC) T = 0.4 ± 0.1 μsec. (PAL)

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Change the data of page: D, address: 5C, and set the time difference between the SYNC waveform and HSY waveform to the specified value.
3) Press the PAUSE button of the adjusting remote commander.
4) Set the same data as page: D, address: 5C to page: D, address: 5F, and press the PAUSE button of the adjusting remote commander.
5) Set data: 00 to page: 0, address: 01.

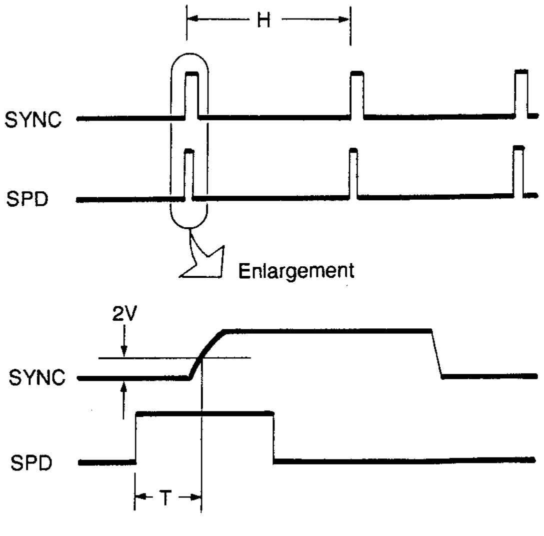


Fig. 6-1-13.

4. Bright Adjustment (PD-64 board)

Set the level of the VIDEO signal for driving the LCD to the specified value. If deviated, the screen image will not be consistent or will be black or white.

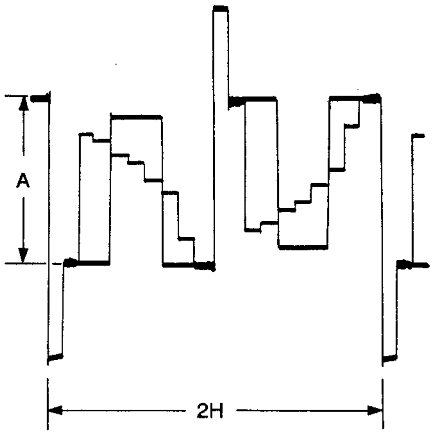
Mode	VTR stop
Signal	Color bar signal whose chroma signal and burst signal have been turned off.
Measurement Point	VA-96 board Pin ② of CN61 (VG)
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	52, 5D
Specified Value	A = 3.40 ± 0.05V

Note: Same as "5. Contrast Adjustment" and tracking adjustment.

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Change the data of page: D, address: 5A, and set the voltage (A) between the reversed waveform pedestal and non-reversed waveform pedestal to the specified value.
3) Press the PAUSE button of the adjusting remote commander.
4) Set the same data as page: D, address: 52 to page: D, address: 5D, and press the PAUSE button of the adjusting remote commander.
5) Set data: 00 to page: 0, address: 01.
6) Check that the specified value of "Contrast Adjustment" is satisfied. If not, perform the "Contrast Adjustment".

For NTSC model



For PAL model

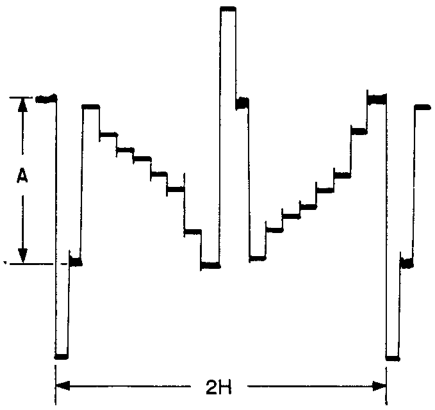


Fig. 6-1-14.

5. Contrast Adjustment (PD-64 board)

Set the level of the VIDEO signal for driving the LCD to the specified value. If deviated, the screen image will not be consistent or will become black or white.

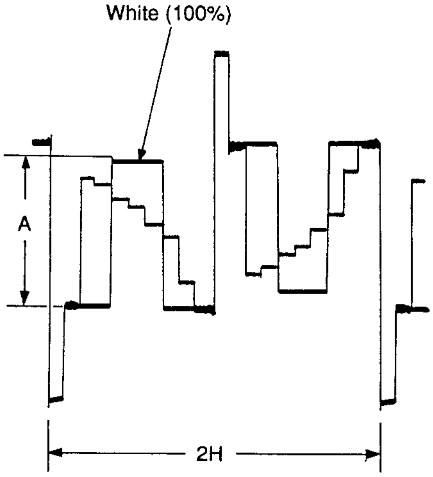
Mode	VTR stop
Signal	Color bar signal whose chroma signal and burst signal have been turned off.
Measurement Point	VA-96 board Pin ② of CN61 (VG)
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	57
Specified Value	A = 2.95 ± 0.05V

Note: Same as "4. Bright Adjustment" and tracking adjustment.

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Change the data of page: D, address: 57, and set the voltage (A) between the pedestal and white 100% (100IRE) to the specified value (A).
3) Press the PAUSE button of the adjusting remote commander.
4) Set data: 00 to page: 0, address: 01.
5) Check that the specified value of "Bright Adjustment" is satisfied. If not, perform the adjustment.

For NTSC model



For PAL model

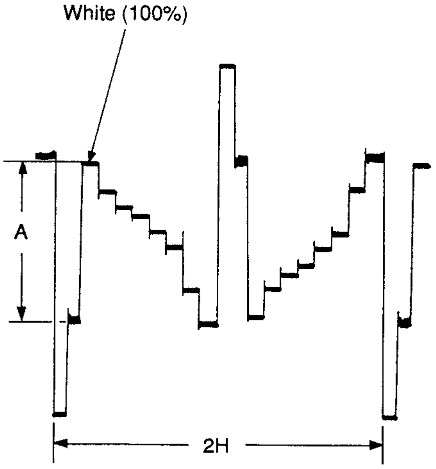


Fig. 6-1-15.

6. Color Adjustment for NTSC model (PD-64 board)

Set the color thickness to the standard value.
If deviated, the color will be too dark or light.

Mode	VTR stop
Signal	Color bar signal (With chroma signal and burst signal)
Measurement Point	VA-96 board Pin ② of CN61 (VG)
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	53
Specified Value	A = +0.17 ± 0.05V

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Change the data of page: D, address: 53, and set the green level (A) to white (75%).
3) Press the PAUSE button of the adjusting remote commander.
4) Set data: 00 to page: 0, address: 01.

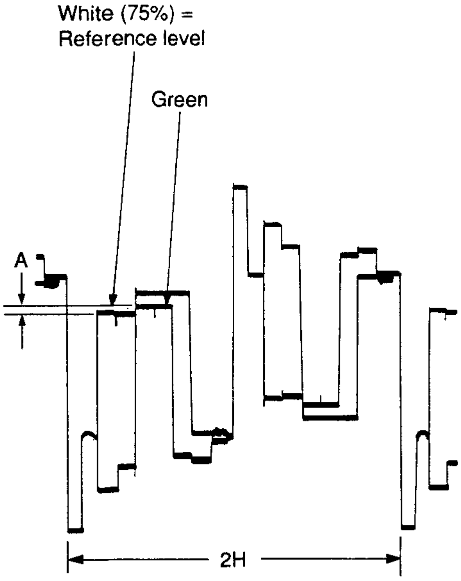


Fig. 6-1-16.

7. Hue Adjustment for NTSC model (PD-64 board)

Set the color thickness to the standard value.
If deviated, the color will be unnatural.

Mode	VTR stop
Signal	Color bar signal (With chroma signal and burst signal)
Measurement Point	VA-96 board Pin ② of CN61 (VG)
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	54
Specified Value	A = +0.13 ± 0.05V

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Change the data of page: D, address: 54, and set the cyan level (A) to the specified value in respect to yellow.
3) Press the PAUSE button of the adjusting remote commander.
4) Set data: 00 to page: 0, address: 01.

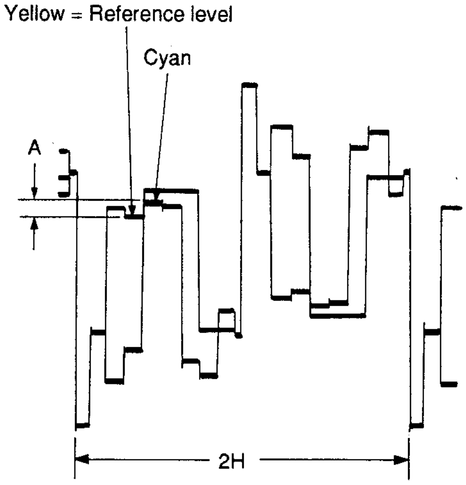


Fig. 6-1-17.

8. Burst Cleaning Adjustment for PAL model (PD-64 board)

Adjust to the optimum PAL chroma signal demodulation phase. If the phase is not correct, moire distortion and noises will stand out.

Mode	VTR stop
Signal	Color bar signal
Measurement Point	Pin ③ of CN61 (VB) on VA-96 board
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	54, 5E
Specified Value	Minimam amplitude of the flicker of the red section

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Change the data of page: D, address: 54, and adjust so that the amplitude of the flicker of the green section (A) becames minimum.
3) Press the PAUSE button of the adjusting remote commander.
4) Set the same data as address: 54 of page: D to address: 5E of page: D.
5) Press the PAUSE button of the adjusting remote commander.
6) Set data: 00 to page: 0, address: 01.

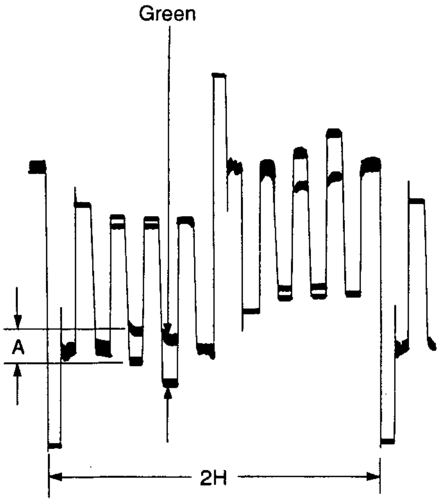


Fig. 6-1-18.

9. Color Cleaning Adjustment for PAL model (PD-64 board)

Set the standard color level.
If the level is not correct, the image will be abnormal.

Mode	VTR stop
Signal	Color bar signal
Measurement Point	Pin ② of CN61 (VG) on VA-96 board
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	53
Specified Value	A = +0.14 ± 0.05 V

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Change the data of page: D, address: 53, and adjust so that the level difference (A) of yellow and green section to the specified value.
3) Press the PAUSE button of the adjusting remote commander.
4) Set data: 00 to page: 0, address: 01.

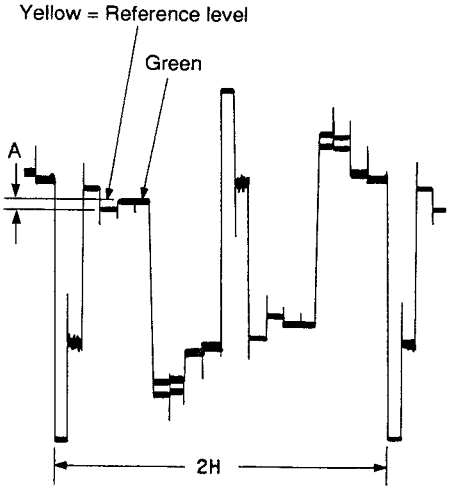


Fig. 6-1-19.

10. V COM Adjustment (PD-64 board)

Set the DC bias of the common electrode drive signal of the LCD panel to the specified value.
If deviated, the LCD display will move, producing flicker and conspicuous vertical lines.

Mode	Playback pause
Signal	Alignment tape: SP mode operation check (WR-5NSP (NTSC) WR-5CSP (PAL)) Color bar portion
Measurement Point	Check on LCD display
Measuring Instrument	
Adjustment Page	D
Adjustment Address	59

Note: < > : NTSC model
[ ] : PAL model

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Set data: 50 to page D, address: 13, set and press the PAUSE button of the adjusting remote commander.
3) Set the playback pause state at the color bar portion of the alignment tape.
4) Set the data of page: D, address: 59 to the initial value <6F> or [77] .
5) Change the data of page: D, address: 59 and observe the pattern of the noise bar of the LCD display. When the data is increased from the initial value, black dots will be seen around the part with the head clog pattern. Take the data at this time as DA. When decreased from the initial value, the same black dots will be seen. Take this data as DB.
6) Convert DA and DB to decimal numbers to obtain DA′ and DB′.
   (Refer to Table 6-4-2. Hexadecimal-Decimal Conversion of "Data processing" of "Service mode".)
7) Calculate DC′ using the following equation (decimal calculation)
   DC′ = (DA′+DB′)÷2
8) Convert DC′ to a hexadecimal number to obtain DC.
   Press the PAUSE button of the remote commander.
9) Set data: DC to page: D, address: 59, and press the PAUSE button of the remote commander.
10) Set data: 70 to page: D, address: 13, and press the PAUSE button of the remote commander.
11) Set data: 00 to page: 0, address: 01.

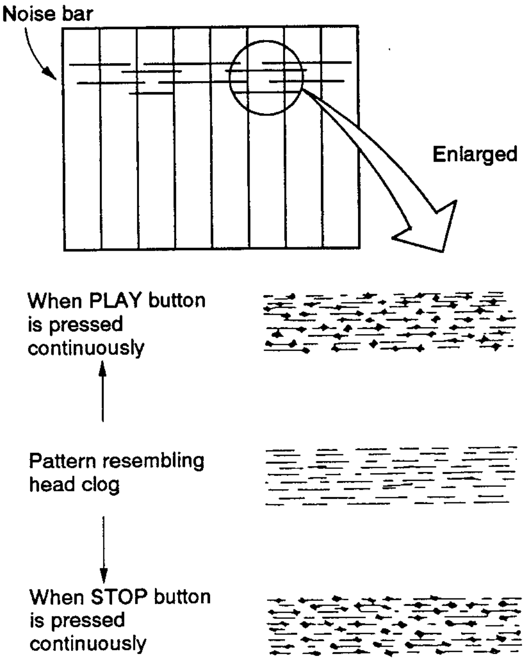

Noise bar
Enlarged
When PLAY button is pressed continuously
Pattern resembling head clog
When STOP button is pressed continuously

Fig. 6-1-20.

11. White Balance Adjustment (PD-64 board)

Adjust the white balance.
If deviated, the LCD screen color cannot be reproduced.

Mode	VTR stop
Signal	Color bar signal whose chroma signal and burst signal have been turned off.
Measurement Point	Check on LCD screen
Measuring Instrument	
Adjustment Page	D
Adjustment Address	55, 56
Specified Value	The LCD display is B/W.

Note: Check the white balance only when replacing the following parts. If necessary, adjust them.

1. LCD panel
2. Light induction plate
3. IC805

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Set the data of page: D, addresses: 55 and 56 to the initial value.

Address	Data	
	NTSC	PAL
55	80	81
56	75	78

Note: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjusting remote commander each time to set the data.

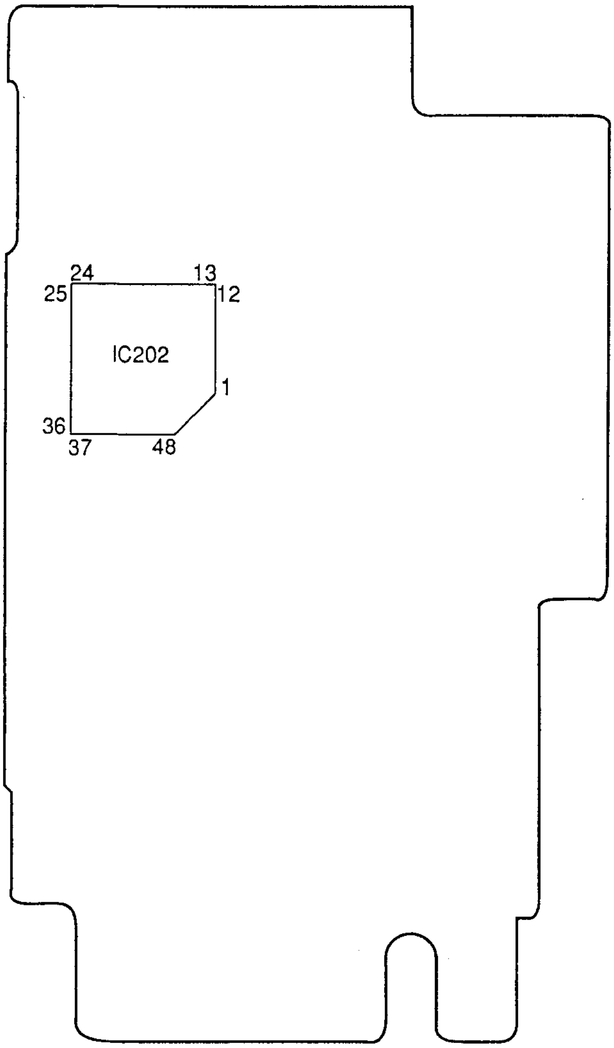
3) Check that the LCD display is black and white. If colored, change the data of page: D, addresses: 55 and 56 so that the LCD display becomes black and white.

Note: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjusting remote commander each time to set the data.

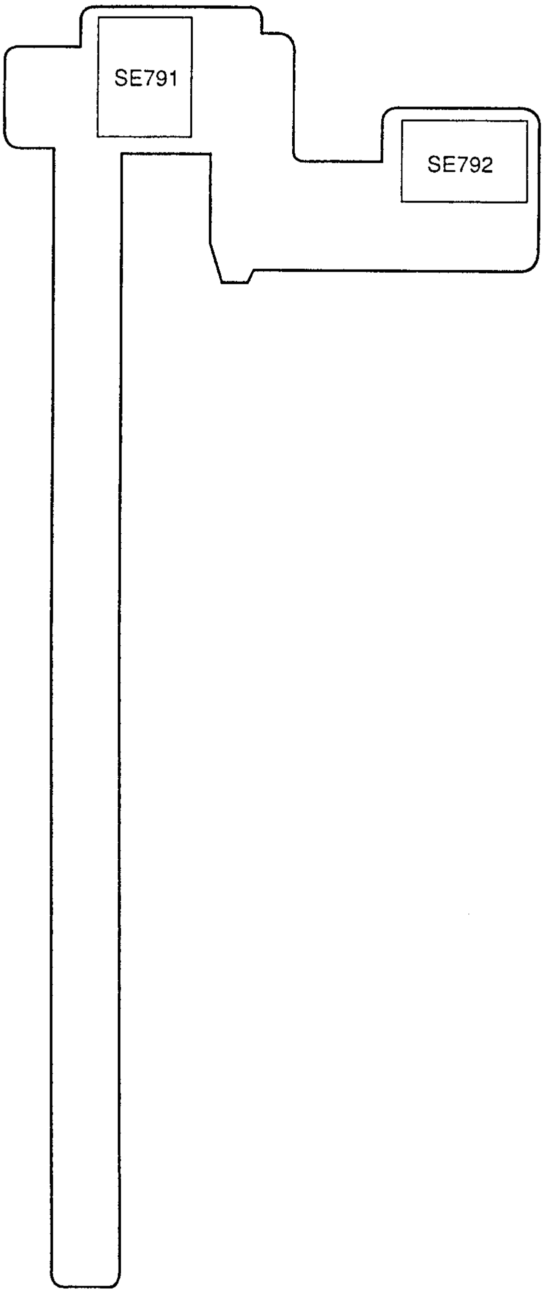
4) Set data: 00 to page: 0, address: 01.

1-4. ARRANGEMENT DIAGRAM FOR ADJUSTMENT PARTS

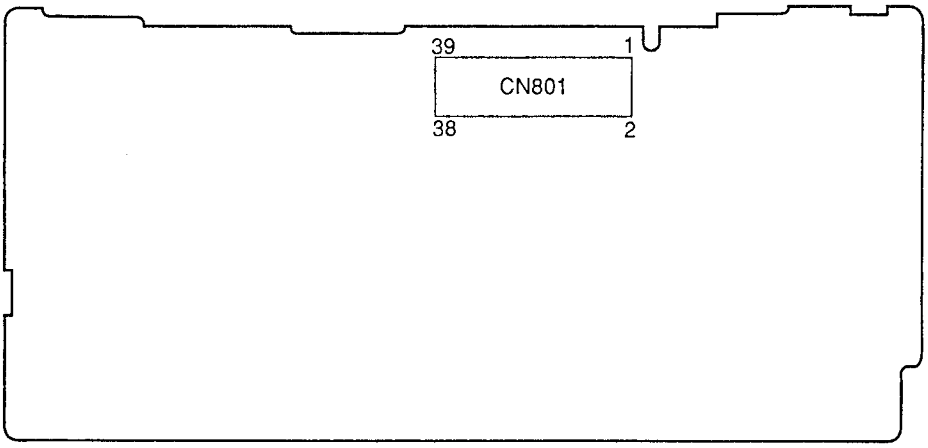
CH-92 BOARD (SIDE A)


24
13
25
12
IC202
1
36
37
48

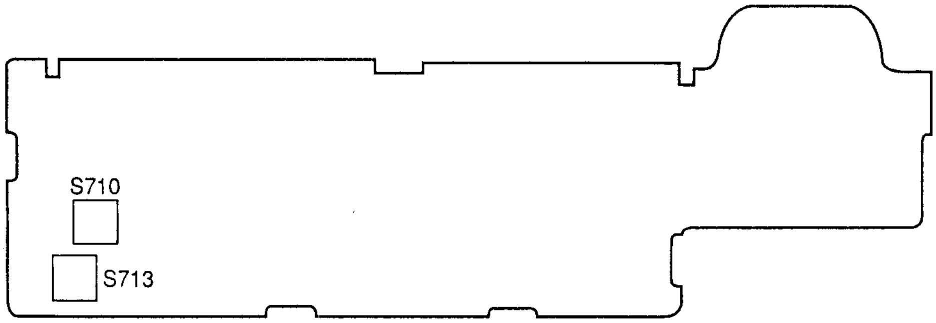
FP-354 BOARD (SIDE A)


SE791
SE792

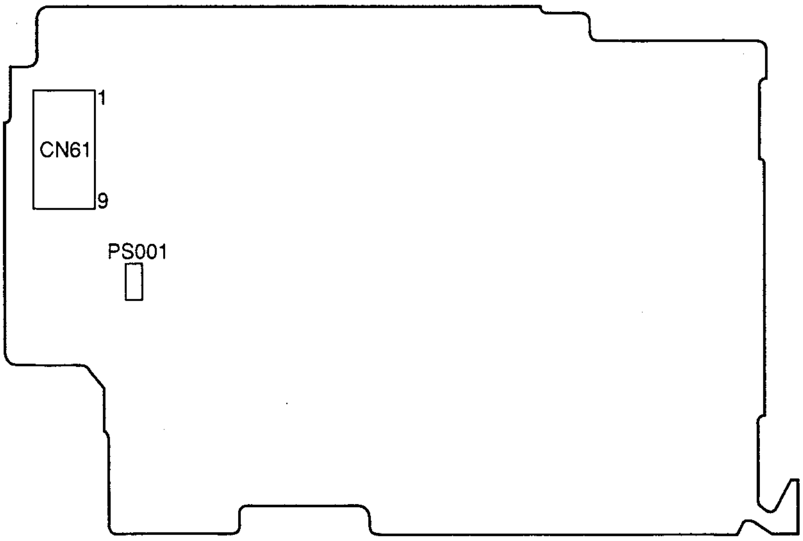
PD-64 BOARD (SIDE B)


39
1
CN801
38
2

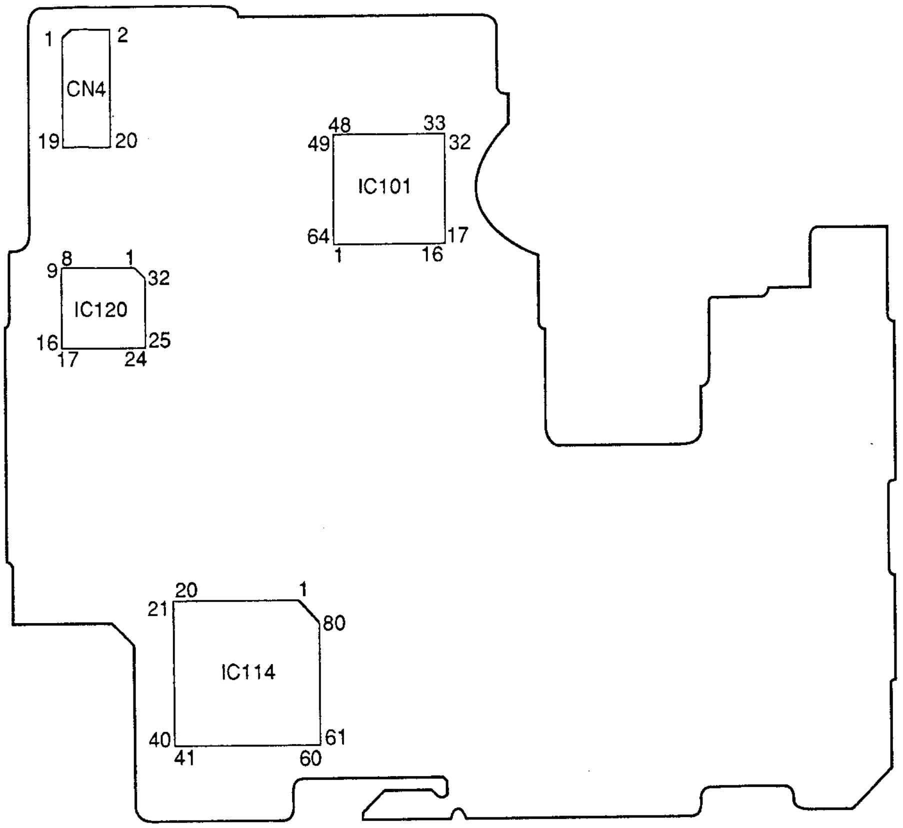
KY-33 BOARD (SIDE A)



VA-96 BOARD (SIDE A)


1
CN61
9
PS001

VD-25 BOARD (SIDE A)


1
2
CN4
19
20
48
33
49
32
IC101
64
17
1
16
9
8
1
32
IC120
16
25
17
24
20
1
21
80
IC114
40
61
41
60

6-2. MECHANICAL SECTION ADJUSTMENTS

Mechanism Parts Adjustments

For details on the adjustments and checks of mechanical section and replacements of mechanism parts, refer to the separate volume- "8 mm Video Mechanism Adjustment Manual VIII T2 Mechanism".

2-1. OPERATING WITHOUT A CASSETTE

1) Refer to "2. DISASSEMBLY" and supply the power with the cabinet removed. (So that the mechanical deck can be operated.)
2) Connect the adjusting remote commander to CN4 of VD-25 board using CPC5 jig (J-6082-351-A).
3) Turn on the HOLD switch of the adjusting remote commander.
4) Close the cassette compartment without loading a cassette and complete loading.
5) Set data: 01 to page: 0, address: 01.
6) Set data: 01 to page: F, address: 29, and press the PAUSE button of the adjusting remote commander.
7) Set data: 04 to page: D, address: 10, and press the PAUSE button of the adjusting remote commander.

By carrying out the above procedure, the unit can be operated without loading a cassette.

Be sure to carry out "Processing after Operations" after checking the operations.

Set the data of page: D, address: 10 to the following if the sensor ineffective mode, forced VTR power supply ON mode or forced camera power supply ON mode are to be used together.

Forced VTR power supply ON mode..........06
Forced camera power supply ON mode......05

[Processing after Operations]

1) Set data: 01 to page: 0, address: 01.
2) Set data: 00 to page: F, address: 29, and press the PAUSE button of the adjusting remote commander.
3) Set data: 00 to page: D, address: 10, and press the PAUSE button of the adjusting remote commander.
4) Set data: 00 to page: 0, address: 01.
5) Disconnect the power supply of the unit.

2-2. TAPE PATH ADJUSTMENT

1. Preparations for adjustments

1) Clean the tape path face (tape guide, drum, capstan shaft, pinch roller).
2) Connect the adjusting remote commander to CN4 of VD-25 board using CPC5 jig (J-6082-351-A).
3) Turn on the HOLD switch of the adjusting remote commander.
4) Select page: 0, address: 01, and set data: 01.
5) Select page: F, address: 29, and set data: 04 and press the PAUSE button of the adjusting remote commander.
(Be sure to perform "Processing after operations" after completing adjustments.)
6) Connect the oscilloscope.
Channel 1-Pin ⑨ of CN4 of VD-25 board
External trigger-Pin ④ of CN4 of VD-25 board
(Connect the oscilloscope via the multi CPC-5 jig (J-6082-351-A).)
7) Playback the alignment tape for tracking.
WR5-1NP: For NTSC model
WR5-1CP: For PAL model
8) Check that the RF waveform of the oscilloscope is flat at both the entrance and the exit.
If not flat, perform necessary adjustment according to the separate "8 mm Video Mechanical Adjustment Manual VIII (T2 Mechanism)".
9) Perform "Processing after operations", after completing adjustments.

CN4 of VD-25 board

Pin No.	Signal Name	Pin No.	Signal Name
1	LANC SIG	2	LANC DC
3	CAP FG	4	RF SWP
5	1/2 SWP	6	REC RF
7	REG GND	8	PB PCM RF
9	PB RF	10	REG GND
11	RF AGC IN	12	AFC FO
13	EZ I/O	14	RF AGC OUT
15	REC AFM	16	BPF MON
17	N.C.	18	N.C.
19	N.C.	20	N.C.

[Processing after operations]

1) Connect the adjusting remote commander, and turn on the HOLD switch.
2) Select page: 0, address: 01, and set data: 01.
3) Select page: F, address: 29, and set data: 00.
4) Press the PAUSE button of the adjusting remote commander.
5) Select page: 0, address: 01, and set data: 00.
6) Remove the power supply from the unit.

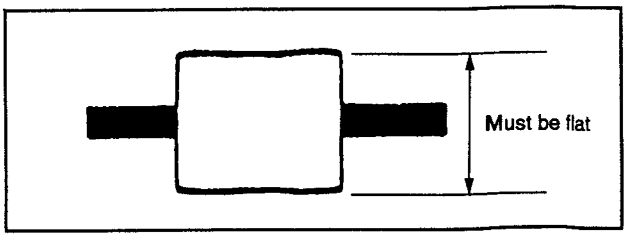


Fig. 6-2-1.

6-3. VIDEO SECTION ADJUSTMENTS

When performing adjustments, refer to the layout diagrams for adjustment related parts beginning from page 6–62.

3-1. PREPARATIONS BEFORE ADJUSTMENT

The following adjusting instruments are used for adjusting the video section.

3-1-1. Equipments to be Used

1) TV monitor
2) Oscilloscope: 2 phenomena, band 30 MHz or wider, with delay mode. (Use a 10:1 probe unless specified otherwise.)
3) Frequency counter
4) Pattern generator with video output terminal
5) Digital voltmeter
6) Audio generator
7) Audio level meter
8) Audio distortion meter
9) Audio attenuater
10) Regulated power supply
11) Alignment tape

    [For NTSC model]
    - For tracking adjustment (WR5-1NP)
      Part Code: 8-967-995-02
    - For video frequency characteristics adjustment
      (WR5-7NE) Part Code: 8-967-995-13
    - For checking Standard 8 mm mode operations
      For LP (WR5-4NL)
      Part Code: 8-967-995-51
      For SP (WR5-5NSP)
      Part Code: 8-967-995-42

      Note: The following alignment tapes can also be used.
      1) WR5-4NSP (8-967-995-41)
    - For checking Hi8 mode operations
      For SP (WR5-8NSE)
      Part Code: 8-967-995-43
      For LP (WR5-8NLE)
      Part Code: 8-967-995-52
    - For checking AFM stereo operations (WR5-9NS)
      Part Code: 8-967-995-23
      For checking BPF adjustment (WR5-11NS)
      Part Code: 8-967-995-71

    [For PAL model]
    - For tracking adjustment (WR5-1CP)
      Part Code: 8-967-995-07
    - For video frequency characteristics adjustment
      (WR5-7NE) Part Code: 8-967-995-18
    - For checking Standard 8 mm mode operations
      For LP (WR5-4CL)
      Part Code: 8-967-995-56
      For SP (WR5-5CSP)
      Part Code: 8-967-995-47

      Note: The following alignment tapes can also be used.
      1) WR5-3CL (8-967-995-36)
      2) WR5-4CSP (8-967-995-46)
    - For checking Hi8 mode operations
      For SP (WR5-8CSE)
      Part Code: 8-967-995-48
      For LP (WR5-8CLE)
      Part Code: 8-967-995-57
    - For checking AFM stereo operations (WR5-9CS)
      Part Code: 8-967-995-28
      For checking BPF adjustment (WR5-11CS)
      Part Code: 8-967-995-76
12) Remote commander for adjustment (J-6082-053-B)
13) Multi CPC jig Part Code: J-6082-311-A
14) CPC-5 jig Part Code: J-6082-351-A
15) Power code Part Code: J-6082-223-A
16) AFM DEV jig (J-6082-312-A)
17) Extension cable (100P, 0.5 mm) (J-6082-352-A)

3-1-2. Precautions in Adjustment

1) The adjustments of this unit are performed in the VTR mode (S video terminal input or video/audio terminal input mode) or in the camera mode.
   To set to the VTR mode, set the power switch to "VTR or PLAYER" or set to the "forced VTR power supply ON mode" (Note 1) using the adjusting remote commander.
   To set to the camera mode, set the power switch to "CAMERA" or set to the "forced camera+VTR power supply ON mode" (Note 2) using the adjusting remote commander.
   After completing adjustments, be sure to exit the "forced VTR power supply ON mode" or "forced camera+VTR power supply ON mode". (Note 3)
2) The front cabinet battery terminal (EN-18 board) needs to be connected, but the microphone board (MA-260 board) need not. To disconnect the microphone board, disconnect the following connector.
   1. VA-96 board CN51 (27P, 0.3 mm)
3) The LCD block need not be connected.
   To remove, disconnect the following connector.
   1. VA-96 board CN52 (39P, 0.3 mm)
4) When the side cabinet (FP-357 board, FP-358 board) is removed, it will not affect adjustments but the lithium 3V power supply will be disconnected as well, and all the data such as date, time, user settings made will be lost. After completing adjustments, set these data again. To remove the side cabinet, disconnect the following connector.
   1. VA-96 board CN372 (40P, 0.5 mm)
5) The rear cabinet control key board (KY-33 board) and power supply switch board (FP-348 board) need not be connected if the "forced VTR power supply ON mode" or "forced camera+VTR power supply ON mode" is set. Carry out VTR operations using the adjusting remote commander. To remove the control key board, disconnect the following connector.
   1. VA-96 board CN53 (14P, 0.5 mm)
   After completing adjustments, be sure to exit the "forced VTR power supply ON mode" or "forced camera+VTR power supply ON mode". (Note 3)
6) When opening the VA-96 board. use the extension cord (100P, 0.5 mm) (Parts Code: J-6082-352-A).
7) The lens block (FP-340 board, FP-354 board) is not required for video section adjustments (excluding the battery end adjustment). To remove, disconnect the following three connectors.
   1. CH-92 board CN112 (16P, 0.5 mm)
   2. CH-92 board CN251 (20P, 0.5 mm)
   3. CH-92 board CN451 (12P, 0.5 mm)

Note 1: Setting the "forced VTR power supply ON mode"
1) Set data: 01 to page: 0, address: 01.
2) Set data: 02 to page: D, address: 10, and press the PAUSE button of the adjusting remote commander.
   Hereafter, VTR operations can be performed even if the KY-33 board of the rear cabinet has been removed.
   After completing adjustments, be sure to exit the "forced VTR power supply ON mode".

Note 2: Setting the "forced camera+VTR power supply ON mode" (camera mode)
1) Set data: 01 to page: 0, address: 01.
2) Set data: 03 to page: D, address: 10, and press the PAUSE button of the adjusting remote commander.
   Hereafter, VTR operations can be performed even if the KY-33 board of the rear cabinet has been removed.
   After completing adjustments, be sure to exit the "forced power supply ON mode".

Note 3: Exiting the "forced power supply ON mode"
1) Set data: 01 to page: 0, address: 01.
2) Set data: 00 to page: D, address: 10, and press the PAUSE button of the adjusting remote commander.
3) Set data: 00 to page: 0, address: 01.

3-1-3. Connector for Adjustments

Some video section adjustment points are concentrated on the VD-25 board CN4. Connect the measuring instruments via a CPC-5 jig (J-6082-351-A).

Pin No.	Signal Name	Pin No.	Signal Name
1	LANC SIG	2	LANC DC
3	CAP FG	4	RF SWP
5	1/2 SWP	6	REC RF
7	REG GND	8	PB PCM RF
9	PB RF	10	REG GND
11	RF AGC IN	12	AFC FO
13	EZ I/O	14	RF AGC OUT
15	REC AFM	16	BPF MON
17	N.C.	18	N.C.
19	N.C.	20	N.C.

Table 6-3-1.

3-1-4. Connecting the Equipments

Connect the measuring instruments as shown in Fig. 6-3-1 according to the input terminal specifications (VIDEO input or S VIDEO input), and perform the adjustments.
The input terminal is specified in the ( ) in the signal column. Either input terminal can be used when there are no specifications.

Note 1: If the VIDEO input is used for adjustments which specify for the S VIDEO input to be used, the product specifications of the unit may not be satisfied in some cases. Be sure to perform according to the specifications.

Note 2: When adjustments are performed with the S video output terminal VTR as the signal source, the efficiencies of the unit may be affected by the VTR. It is recommended that a pattern generator with a Y/C separation output terminal be used as much as possible.

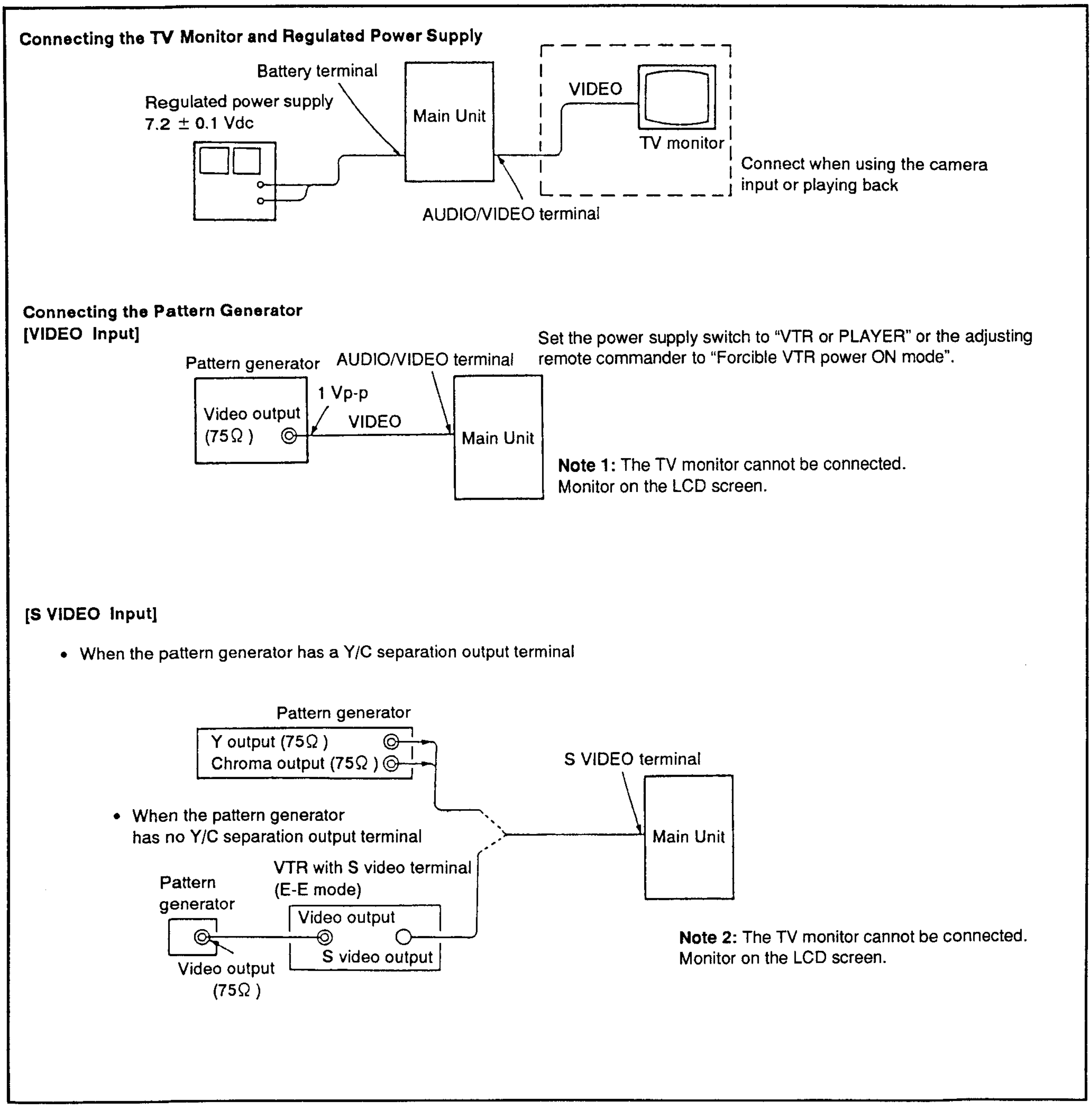

Connecting the TV Monitor and Regulated Power Supply
Battery terminal
Regulated power supply
7.2 ± 0.1 Vdc
Main Unit
VIDEO
TV monitor
Connect when using the camera input or playing back
AUDIO/VIDEO terminal
Connecting the Pattern Generator
[VIDEO Input]
Pattern generator
AUDIO/VIDEO terminal
Set the power supply switch to "VTR or PLAYER" or the adjusting remote commander to "Forcible VTR power ON mode".
Video output (75Ω)
1 Vp-p
VIDEO
Main Unit
Note 1: The TV monitor cannot be connected. Monitor on the LCD screen.
[S VIDEO Input]
• When the pattern generator has a Y/C separation output terminal
Pattern generator
Y output (75Ω)
Chroma output (75Ω)
S VIDEO terminal
Main Unit
• When the pattern generator has no Y/C separation output terminal
VTR with S video terminal (E-E mode)
Pattern generator
Video output
S video output
Video output (75Ω)
Note 2: The TV monitor cannot be connected. Monitor on the LCD screen.

Fig. 6-3-1.

3-1-5. Checking the Input Signals

Because the video signal obtained from the pattern generator is used as the adjustment signal for adjusting the VTR section, the video output signal must satisfy the given specifications.

1. CAMERA input

Connect the oscilloscope to the Y signal terminal of the S VIDEO terminal, and check that the sync signal of the Y signal is approximately <0.286> [0.30]V and that the amplitude of the video section is approximately <0.714> [0.70]V. (When a VTR with the S VIDEO output terminal is used, also check that the chroma signal and burst signal have not remained.) Connect the oscilloscope to the chroma signal terminal of the S VIDEO terminal, and check that the burst signal amplitude of the chroma signal is approximately <0.286>[0.30]V and flat, and that the amplitude ratio of the burst signal to the chroma signal is 0.30:0.66. The Y and chroma signals used in the adjustment are shown in Fig. 6-3-2.

< >: NTSC model
[ ] : PAL model

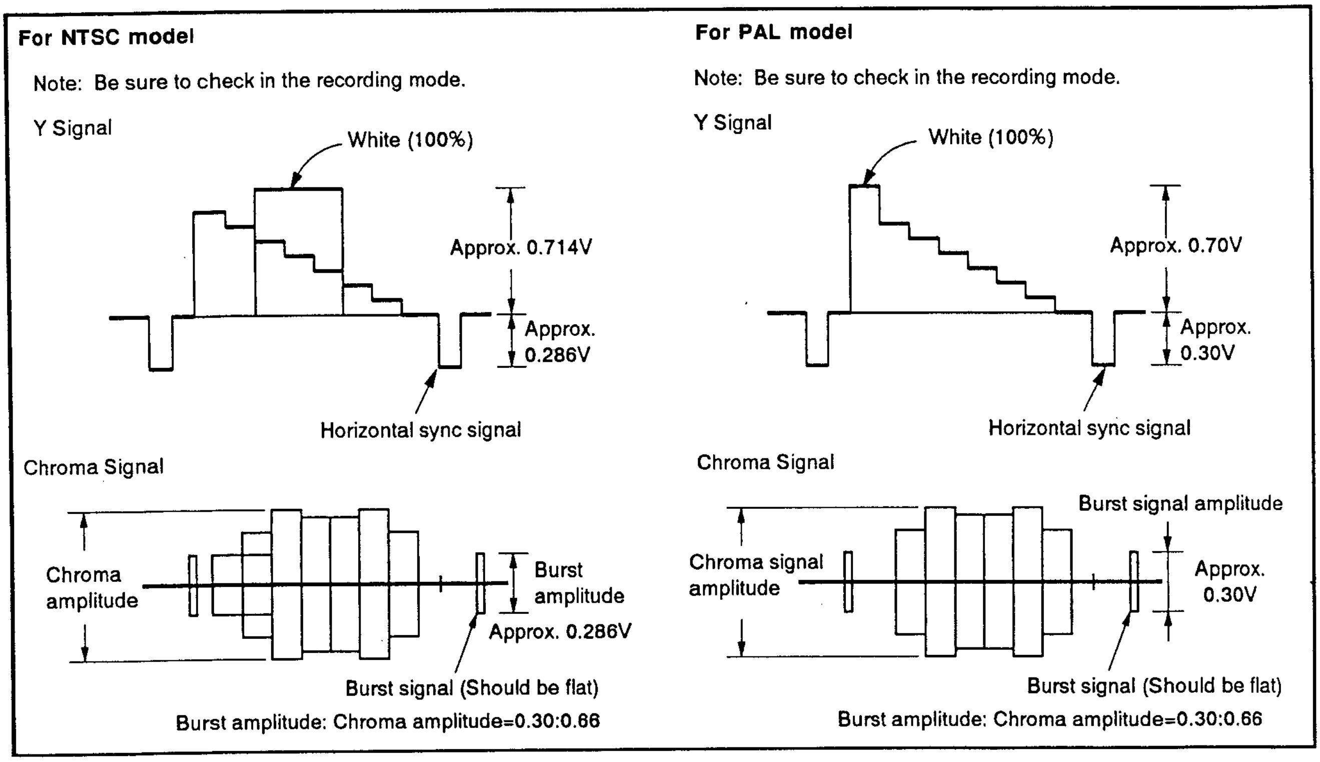

For NTSC model
Note: Be sure to check in the recording mode.
Y Signal
White (100%)
Approx. 0.714V
Approx. 0.286V
Horizontal sync signal
Chroma Signal
Chroma amplitude
Burst amplitude
Approx. 0.286V
Burst signal (Should be flat)
Burst amplitude: Chroma amplitude=0.30:0.66
For PAL model
Note: Be sure to check in the recording mode.
Y Signal
White (100%)
Approx. 0.70V
Approx. 0.30V
Horizontal sync signal
Chroma Signal
Burst signal amplitude
Chroma signal amplitude
Approx. 0.30V
Burst signal (Should be flat)
Burst amplitude: Chroma amplitude=0.30:0.66

Fig. 6-3-2. Color bar signal of pattern generator

2. VIDEO input

Connect the oscilloscope to the VIDEO terminal, and check that the sync signal amplitude of the video signal is approximately <0.286> [0.30]V, the amplitude of the video section is approximately <0.714> [0.70]V, the amplitude of the burst signal is approximately <0.286> [0.30]V and flat, and that the level ratio of the burst signal to the "red" signal is 0.30 : 0.66. The video signal (color bar) used for adjusting the VTR section is shown in Fig. 6-3-3.

< >: NTSC model
[ ] : PAL model

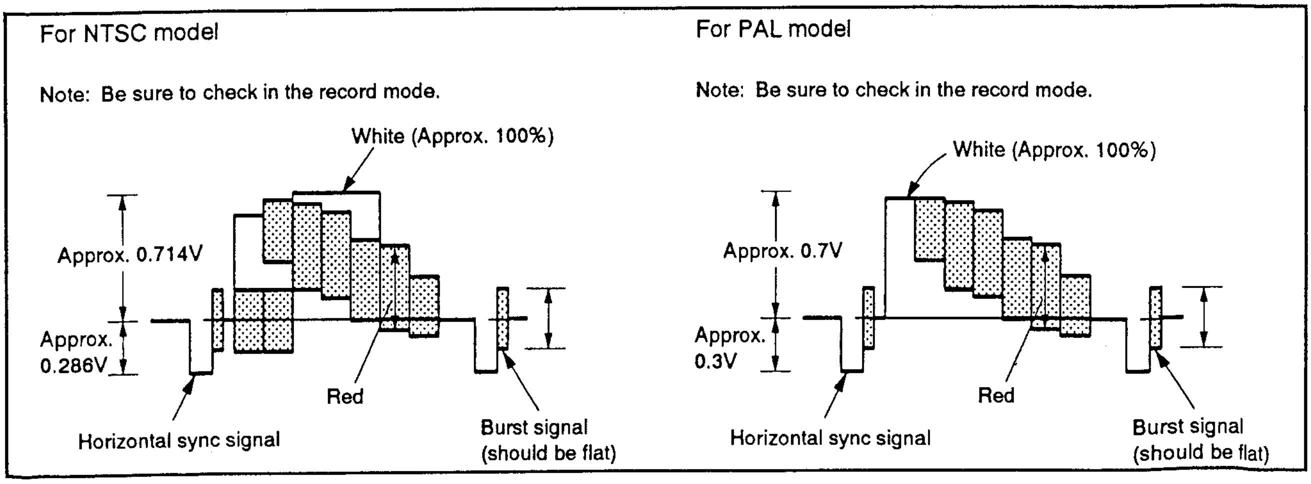

For NTSC model
Note: Be sure to check in the record mode.
White (Approx. 100%)
Approx. 0.714V
Approx. 0.286V
Red
Horizontal sync signal
Burst signal (should be flat)
For PAL model
Note: Be sure to check in the record mode.
White (Approx. 100%)
Approx. 0.7V
Approx. 0.3V
Red
Horizontal sync signal
Burst signal (should be flat)

Fig. 6-3-3. Color Bar Signal of Pattern Generator

3-1-6. How to Set the REC Mode in the Model without REC switch (AEP, UK model)

1. REC key forbidden accept mode cancel
   1. Connect the adjustment remote commander to the remote terminal.
   2. Turn on the power.
   3. Turn on the HOLD switch of the adjustment remote commander.
   4. Select the page: 0 address: 01, and set the data to 01.
   5. After memorizing data of address: 12 of page: D, Set data: FE to the address.
   6. Press PAUSE button on the adjustment remote commander.

The REC key is accepted through the above procedure.

2. REC mode setting
   1. Turn off the HOLD switch of the adjusting remote commander.
   2. Press REC buttons of the adjusting remote commander.
   3. Perform "3. Procedure after completed the adjustment" after completing adjustment .

3. Procedure after completed the adjustment
   Be sure to return the mode to REC key forbideden accept mode after adjustment.
   1. Connect the adjustment remoter commander.
   2. Turn on the power.
   3. Turn on the HOLD switch of the adjustment remote commander.
   4. Select the page: 0 address: 01, and set the data to 01.
   5. Set data memorized at step 1)-5 to address: 17 of page: D.
   6. Press PAUSE button on the adjustment remote controller.
   7. Select the page: 1 address: 00, and set the data to 00.

3-1-7. Alignment Tape

The following table lists alignment tapes which are available. Use the tape specified in the signal column for each adjustment. If the type of tape to be used for checking operations is not specified, use whichever type.

Name	Record -ing mode	Tape type	Tape speed	Usage
Tracking WR5-1NP (NTSC) WR5-1CP (PAL)	Standard 8 mm	MP	SP	Tape path adjustment Switching position adjustment
Video frequency characteristics WR5-7NE (NTSC) WR5-7CE (PAL)	Hi8	ME	SP (NTSC) LP (PAL)	Frequency characteristics adjustment
Operation check (SP mode) WR5-5NSP (NTSC) WR5-5CSP (PAL)	Standard 8 mm	MP	SP	Checking operations
Operation check (SP mode) WR5-8NSE (NTSC) WR5-8CSE (PAL)	Hi8	ME	SP	
Operation check (LP mode) WR5-4NL (NTSC) WR5-4CL (PAL)	Standard 8 mm	MP	LP	
Operation check (LP mode) WR5-8NLE (NTSC) WR5-8CLE (PAL)	Hi8	ME	LP	
AFM stereo Operation check WR5-9NS (NTSC) WR5-9CS (PAL)	Standard 8 mm	MP	SP	AFM stereo Checking operations
BPF adjustment WR5-11NS (NTSC) WR5-11CS (PAL)	Standard 8 mm	MP	SP	BPF adjustment

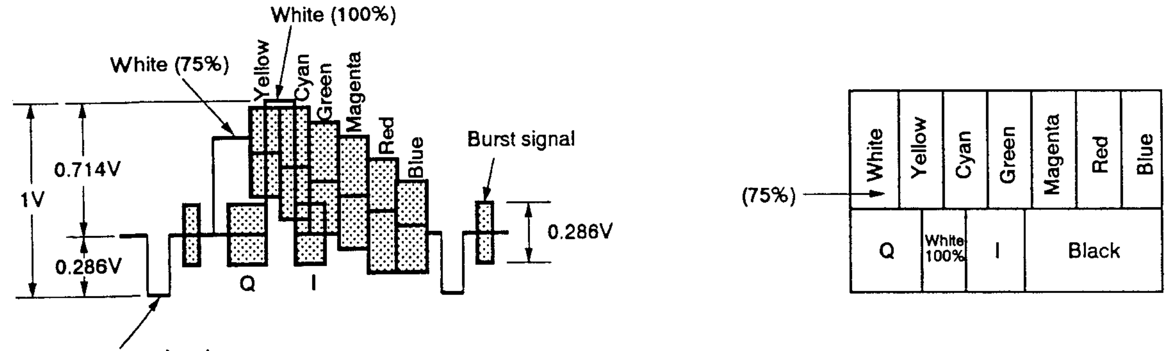
Tape type
MP.... Particle type metal tape
ME ... Evaporated type metal tape

Table 6-3-2.

Fig. 6-3-4. shows the 75% color bar signals recorded on the alignment tape.

Note: Measure using the video terminal of AUDIO/VIDEO terminal (Terminated at 75 Ω).

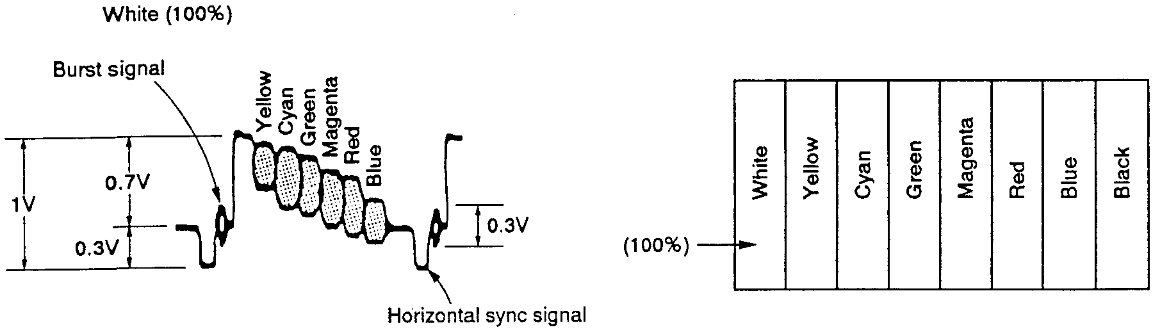
For NTSC model


White (100%)
White (75%)
Yellow
Cyan
Green
Magenta
Red
Blue
Burst signal
0.714V
1V
0.286V
Q
I
0.286V
Horizontal sync signal
(75%)
White
Yellow
Cyan
Green
Magenta
Red
Blue
Q
White 100%
I
Black

Color bar signal waveform

Color Bar Pattern

For PAL model


White (100%)
Burst signal
Yellow
Cyan
Green
Magenta
Red
Blue
1V
0.7V
0.3V
0.3V
Horizontal sync signal
(100%)
White
Yellow
Cyan
Green
Magenta
Red
Blue
Black

Color bar signal waveform

Color bar pattern

Fig. 6-3-4. Color Bar Signals of the Alignment Tape

3-1-8. Input/Output Level and Impedance

Video input/output
    Special stereo mini jack, 1 Vp-p, 75Ω, unbalanced, sync negative

S video input/output
    4-pin mini DIN
    Luminance signal:
        1Vp-p, 75Ω, unbalanced, sync negative
    Chrominance signal:
        0.286Vp-p (NTSC), 0.3Vp-p (PAL) 75Ω, unbalanced

Audio input/output
    Special stereo mini jack,
    Input: –7.5 dBs, input impedance more than 47 kΩ
    Output: –7.5 dBs, (at load impedance 47 kΩ), impedance less than 2.2 kΩ

3-1-9. Recording Mode (Normal/Hi8) switching

The record mode (Normal/Hi8) of this unit switches as shown in the following table. The playback mode (Normal/Hi8) switches automaticaly according to the recording mode of the tape played back.

Tape Used	Recording Mode
ME	Hi8
Hi8 MP	
MP	Normal

3-1-10. Page D Addrress

Note 1: The ← mark shown in the adjustment data memory column indicates that the address data is fixed and is the same as the initial value.

Note 2: The initial adjustment data value is the value after "Page D Data Initialization" and "Page D Data Modification" have been executed. It is different from the value after all adjustments have been executed.

Note 3: ( ): CCD-SC55E (AEP, UK model)
[ ]: CCD-SC55E (E, Australian, Hong Kong model)

Address	Adjustment Data		
	Initial Value		Memo Column
	NTSC	PAL	
00 to 0F			
10	00	00	←
11	02	(06)[07]	←
12	6E	(FC)[FE]	←
13	70	70	←
14	07	07	←
15	F1	F1	←
16	01	01	←
17	07	07	←
18	00	00	←
19	36	36	←
1A	17	17	←
1B	2D	2D	←
1C	0B	0B	←
1D	00	00	←
1E	00	00	←
1F	18	18	←
20	00	00	
21	40	(20)[40]	
22	00	00	
23	55	55	
24	15	15	
25	68	68	
26	05	05	
27	E7	E7	
28	80	80	
29	85	85	
2A	91	91	
2B	A0	A0	
2C	A8	A8	
2D	0C	0C	
2E	00	00	
2F	05	05	
30	05	05	
31	69	69	
32	24	24	

Table 6-3-3 (1).

Address	Adjustment Data		
	Initial Value		Memo Column
	NTSC	PAL	
33	C0	C0	
34	07	07	
35	80	80	
36	B8	B8	
37	02	02	
38	02	02	
39	04	04	
3A	0A	0A	
3B	32	32	
3C	08	08	
3D	80	80	
3E	00	00	
3F	04	04	←
40	3F	3F	
41	00	00	
42	20	20	
43	20	20	
44	00	00	
45	00	00	
46	08	08	
47	80	80	
48	A0	A0	
49	E8	E8	
4A	A0	A0	
4B	90	90	
4C	D8	D8	
4D	78	78	
4E	60	60	
4F	90	90	
50	35	35	
51	80	80	
52	7E	72	
53	A2	6C	
54	75	A2	
55	80	81	
56	75	78	
57	91	8B	
58	77	6F	
59	6F	77	
5A	7F	7F	←
5B	7B	7B	←
5C	CA	84	
5D	7E	72	
5E	00	A2	←:NTSC

Table 6-3-3 (2).

Address	Adjustment Data		
	Initial Value		Memo Column
	NTSC	PAL	
5F	CA	84	←
60	00	FF	←
61	00	66	←
62	64	64	←
63	A0	A0	

Table 6-3-3 (3).

3-1-11. Page F Address

Note 1: The ← mark shown in the adjustment data memory column indicates that the address data is fixed and is the same as the initial value.

Note 2: The initial adjustment data value is the value after "Page F, Page E Data Initialization" and "Page F Data Modification" have been executed. It is different from the value after all adjustments have been executed.

Note 3: ( ): CCD-SC55E (AEP, UK model)
[ ]: CCD-SC55E (E, Australian, Hong Kong model)

Address	Adjustment Data		
	Initial Value		Memo Column
	NTSC	PAL	
00	00	00	
01	00	00	
02	00	00	
03	00	00	
04	00	00	
05	00	00	
06	00	00	
07	00	00	
08	00	00	
09	00	00	
0A	00	00	
0B	00	00	
0C	00	00	
0D	00	00	
0E	00	00	
0F	00	00	
10	00	00	
11	00	00	
12	00	00	
13	00	00	
14	00	00	
15	00	00	
16	00	00	
17	00	00	
18	00	00	
19	00	00	
1A	00	00	
1B	00	00	
1C	76	77	←
1D	00	00	←
1E	21	21	←
1F	12	12	←
20	00	02	←
21	01	03	←
22	3B	3B	←
23	00	00	←

Table 6-3-4 (1).

Address	Adjustment Data		
	Initial Value		Memo Column
	NTSC	PAL	
24	7C	7C	←
25	00	00	←
26	1F	1F	←
27	41	(40)[41]	←
28	44	44	←
29	00	00	←
2A	FE	FE	
2B	3B	3B	
2C	77	77	
2D	56	56	
2E	CD	CD	
2F	19	19	
30	92	92	
31	21	21	
32	12	12	
33	14	14	
34	00	00	
35	00	00	
36	00	00	
37	80	80	
38	80	80	
39	80	80	
3A	20	20	
3B	80	80	
3C	80	80	
3D	40	40	
3E	1B	1B	
3F	1B	1B	
40	AE	AE	
41	42	42	
42	44	44	
43	34	34	
44	2A	2A	
45	89	89	
46	59	59	
47	38	38	
48	41	41	
49	41	41	
4A	00	00	
4B	19	19	
4C	00	00	
4D	2E	2E	
4E	00	00	
4F	00	00	

Table 6-3-4 (2).

Address	Adjustment Data		
	Initial Value		Memo Column
	NTSC	PAL	
50	00	00	
51	00	00	
52	80	80	
53	80	80	
54	00	00	
55	00	00	
56	00	00	
57	00	00	
58	00	00	
59	8B	5E	
5A	CA	7C	
5B	AA	7B	
5C	3C	3C	
5D	00	00	
5E	7A	7A	
5F	8D	8D	
60	7A	7A	
61	3A	3A	
62	C0	C0	
63	00	00	
64	A2	A2	
65	50	50	
66	8A	8A	
67	D8	D8	
68	46	60	
69	5A	40	
6A	35	20	
6B	00	F8	
6C	A6	AA	
6D	29	65	
6E	A2	A2	
6F	6A	70	
70	D5	D5	
71	D5	D5	
72	D5	D5	
73	D5	D5	
74	00	00	
75	00	00	
76	BC	BC	
77	BC	BC	
78	BC	BC	
79	BC	BC	
7A	00	00	
7B	00	00	

Table 6-3-4 (3).

Address	Adjustment Data		
	Initial Value		Memo Column
	NTSC	PAL	
7C	00	00	
7D	00	00	
7E	00	00	
7F	00	00	
80	7C	7C	
81	80	80	
82	0C	0C	←
83	19	01	←
84	77	77	←
85	40	40	←
86	75	75	←
87	73	84	←
88	12	12	←
89	96	A9	←
8A	A5	A5	←
8B	68	68	←
8C	4A	4A	←
8D	F0	F0	←
8E	00	00	←
8F	01	01	←
90	68	28	←
91	80	60	←
92	10	40	←
93	31	39	←
94	68	2A	←
95	70	60	←
96	40	40	←
97	2E	39	←
98	58	28	←
99	A0	80	←
9A	30	40	←
9B	14	30	←
9C	58	28	←
9D	C0	FF	←
9E	30	40	←
9F	26	01	←
A0	78	28	←
A1	70	BB	←
A2	4C	30	←
A3	06	00	←
A4	58	28	←
A5	D0	FF	←
A6	60	30	←
A7	0F	00	←

Table 6-3-4 (4).

Address	Adjustment Data		
	Initial Value		Memo Column
	NTSC	PAL	
A8	62	60	←
A9	91	91	←
AA	62	60	←
AB	A2	92	←
AC	60	60	←
AD	91	A2	←
AE	62	60	←
AF	A2	A3	←
B0	04	04	←
B1	E5	D5	←
B2	04	04	←
B3	F7	D6	←
B4	40	40	←
B5	00	00	←
B6	B3	B3	←
B7	B3	B3	←
B8	21	10	←
B9	05	01	←
BA	11	10	←
BB	03	03	←
BC	71	40	←
BD	15	32	←
BE	00	00	←
BF	00	00	←
C0	22	22	←
C1	80	80	←
C2	22	22	←
C3	20	20	←
C4	40	40	←
C5	00	00	←
C6	40	40	←
C7	00	00	←
C8	00	00	←
C9	27	27	←
CA	CA	D2	←
CB	00	00	←
CC	50	50	←
CD	C4	C4	←
CE	1B	1B	←
CF	D8	D8	←
D0	A0	A0	←
D1	30	28	←
D2	10	0D	←
D3	C0	C0	←

Table 6-3-4 (5).

Address	Adjustment Data		
	Initial Value		Memo Column
	NTSC	PAL	
D4	6A	6A	←
D5	40	40	←
D6	60	40	←
D7	55	55	←
D8	66	66	←
D9	25	25	←
DA	34	34	←
DB	3F	3F	←
DC	95	95	←
DD	00	00	←
DE	00	00	←
DF	00	00	
E0	F7	F5	
E1	1A	1A	←
E2	33	33	←
E3	FE	FE	←
E4	3C	3C	←
E5	24	24	←
E6	83	83	←
E7	A0	A0	←
E8	67	67	←
E9	4D	4D	←
EA	33	33	←
EB	5C	5C	←
EC	5C	5C	←
ED	5C	5C	←
EE	3C	3C	←
EF	0F	0F	←
F0	10	10	←
F1	2C	2C	←
F2	0A	0A	←
F3	36	36	←
F4	72	72	←
F5	46	46	←
F6	E0	E0	←
F7	50	50	←
F8	3B	3B	←
F9	10	10	←
FA	E8	E8	←
FB	90	90	←
FC	00	00	←
FD	02	02	←
FE	F0	F0	←
FF	80	80	←

Table 6-3-4 (6).

3-2. SYSTEM CONTROL SYSTEM ADJUSTMENTS

1. Initialization of E, F Page Data

Note: If the E, and F page data has been initialized, the "Camera System Adjustments", "Servo System Adjustments", "Video System Adjustments", and "Audio System Adjustments" need to be performed again.

Initializing method:

Adjusting page	E
Adjusting address	00 to 59
Adjusting page	F
Adjusting address	10 to FF

1) Set data: 01 to page: 0, address: 01.
2) Set data: 2D to page: 2, address: 00.
3) Set data: 2D to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
4) Check that the data of page: 2, address: 02 is 01.
5) Set data: 00 to page: 0, address: 01.

2. Modification of F Page Data

If the E and F page data has been initialized, change the data as shown in the table on the next page by manual input.

Note 1: Before changing the data, set data: 01 to page: 0, address: 01.

Note 2: To write in the non-volatile memory (EEPROM) after changing the data, press the PAUSE button of the adjusting remote commander each time to set the new data.

Note 3: After changing the data, set data: 00 to page: 0, address: 01. Also perform "Camera System Adjustments", "Servo System Adjustments", "Video System Adjustments", and "Audio System Adjustments".

Address	NTSC	PAL
1C	76	77
20	00	
21		03
27	41	(40)[41]
28	44	44
59	8B	5E
5A	CA	7C
5B	AA	7B
61	3A	3A
68	46	60
69	5A	40
6A	35	20
6B	00	F8
6C	A6	AA
6D	29	65
6F	6A	70
83	19	
85	40	40
87		84
89		A9
8F	01	01
90	68	28
91	80	60
92	10	40
93	31	39
94	68	2A
95	70	60
96	40	40
97	2E	39
98	58	28
99	A0	80
9A	30	40
9B	14	30
9C	58	28
9D	C0	FF
9E	30	40
9F	26	01
A0	78	28
A1	70	BB
A2	4C	30
A3	06	00
A4	58	28
A5	D0	FF
A6	60	30
A7	0F	00
A8	62	60
A9	91	91
AA	62	60
AB	A2	92
AD	91	A2
AE	62	60
AF	A2	A3
B1	E5	D5
B3	F7	D6
B4	40	40
B8	21	10
B9	05	01
BA	11	10
BB	03	03
BC	71	40
BD	15	32
CA		D2
D1	30	28
D2	10	0D
D6		40
DF	00	00
E0	F7	F5
E1	1A	1A
E2	33	33
E9	4D	4D
F9	10	10
FF	80	80

Note: ( ): CCD-SC55E (AEP, UK model)
[ ]: CCD-SC55E (E, Australian, Hong Kong model)

3. Modification of E Page Data

If the E and F page data has been initialized, change the data as shown in the following table by manual input.

Note 1: Before changing the data, set data: 01 to page: 0, address: 01.

Note 2: To write in the non-volatile memory (EEPROM) after changing the data, press the PAUSE button of the adjusting remote commander each time to set the new data.

Note 3: After changing the data, set data: 00 to page: 0, address: 01. Also perform "Camera System Adjustments", "Servo System Adjustments", "Video System Adjustments", and "Audio System Adjustments".

Address	NTSC	PAL
03	4F	4F
04	5D	5D
05	66	66
12	9A	9A
13	88	88
14	EA	EA
15	28	28
36	20	20
37	30	30
38	20	20
39	50	40
3A	2C	2A
3B	4C	3A
3C	24	20
3D	26	24
40	CC	28
46	30	22
48	04	08
4B	00	00
4C	77	95
4E	02	02
50	FA	FA

4. Initialization of D Page Data

Note: If the D page data has been initialized, perform "LCD System Adjustment" and "Battery Down Adjustment" again.

Adjusting page	D
Adjusting address	10 to 63

Initialization method:

1) Set data: 01 to page: 0, address: 01.
2) Set data: 2D to page: 3, address: 00.
3) Set data: 2D to page: 3, address: 01, and press the PAUSE button of the adjusting remote commander.
4) Check that the data of page: 3, address: 02 is 01.
5) Set data: 29 to page: 3, address: 00.
6) Set data: 29 to page: 3, address: 01, and press the PAUSE button of the adjusting remote commander.
7) Set data: 00 to page: 0, address: 01.
8) "Modification of D Page Data" again.

5. Modification of D Page Data

If the D page data has been initialized, change the data as shown in the following table by manual input.

Note 1: Before changing the data, set data: 01 to page: 0, address: 01.

Note 2: To write in the non-volatile memory (EEPROM) after changing the data, press the PAUSE button of the adjusting remote commander each time to set the data.

Note 3: After changing the data, set data: 00 to page: 0, address: 01, and perform "LCD System Adjustment" and "Battery Down Adjustment".

( ): CCD-SC55E (AEP, UK model)

[ ]: CCD-SC55E (E, Australian, Hong Kong model)

Address	NTSC	PAL
11	02	(06)[07]
12	6E	(FC)[FE]
13	70	70
14	07	07
15	F1	F1
16	01	01
17	07	07
18	00	00
19	36	36
1A	17	17
1B	2D	2D
1C	0B	0B
1F	18	18
21	40	(20)[40]
22	00	00
23	55	55
24	15	15
25	68	68
26	05	05
27	E7	E7
31	69	69
32	24	24
33	C0	C0
34	07	07
36	B8	B8
37	02	02
39	04	04
3A	0A	0A
3B	32	32
51	80	80
52	7E	72
53	A2	6C
54	75	A2
55	80	81
56	75	78
57	91	8B
58	77	6F
59	6F	77
5A	7F	7F
5B	7B	7B
5C	CA	84
5D	7E	72
5E	00	A2
5F	CA	84
60	00	FF
61	00	66
62	64	64
63	A0	A0

6. Battery End Adjustment (VD-25 board)

Set the battery end voltage.
If the voltage is incorrect, the life of the battery will shorten.
The image at the battery end will also be rough.

Mode	Camera record
Signal	Arbitrary
Measurement Point	LCD display of the adjusting remote control unit
Measuring Instrument	
Adjustment Page	D
Specified Value	28 to 2C, 35

Switch setting

1) FOCUS LOCK switch .... ON

Connection:

1) Connect the regulated power supply and the digital voltmeter to the battery terminal as shown in Fig. 6-3-5.

Adjusting method:

1) Adjust the output voltage of the regulated power supply so that the digital voltmeter display is 6.1 ± 0.1 Vdc.
2) Load a cassette, and set to the camera recording mode.
3) Set data: 01 to page: 0, address: 01.
4) Decrease the output voltage of the regulated power supply so that the digital voltmeter display is 5.30 ± 0.01 Vdc.
5) Select page: 3, address: 15, read the adjusting remote commander display data, and this data is named Dref.
6) Set data Dref to page: D, address: 28, and press the PAUSE button of the adjusting remote commander.
7) Set data Dref to page: D, address: 35, and press the PAUSE button of the adjusting remote commander.
8) Convert Dref to decimal notation, and obtain Dref′. (Refer to Table 6-4-2. "Hexadecimal notation – decimal notation conversion table" of "Data processing" of "Service mode".)
9) Calculate D29′, D2A′, D2B′ and D2C′ using following equations (decimal notation calculation).
   D29′ = Dref′ + 5
   D2A′ = Dref′ + 40
   D2B′ = Dref′ + 56
   D2C′ = Dref′ + 63
10) Convert D29′, D2A′, D2B′ and D2C′ to hexadecimal notation, and obtain D29, D2A, D2B and D2C.
11) Set data: D29 to page: D, address: 29, and press the PAUSE button of the adjusting remote commander.
12) Set data: D2A to page: D, address: 2A, and press the PAUSE button.
13) Set data: D2B to page: D, address: 2B, and press the PAUSE button.
14) Set data: D2C to page: D, address: 2C, and press the PAUSE button.
15) Set data: 00 to page: 0, address: 01.

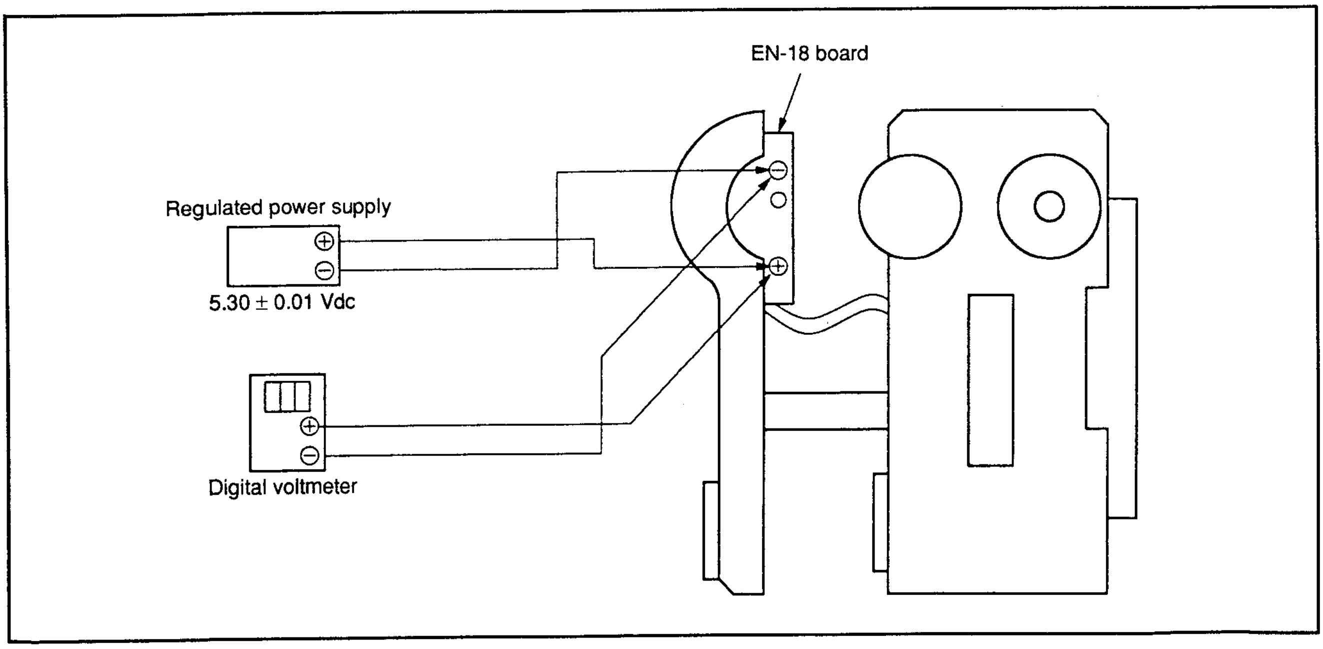


Fig. 6-3-5.

3-3. SERVO SYSTEM ADJUSTMENTS

1. CAP FG Offset Adjustment (VD-25 board)

Improve the capstan servo characteristic. If it is not correct, jitters will increase.

Mode	VTR record (SP mode)
Signal	Color bar
Measurement Point	Pin ③ of CN4 (CAP FG)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	5C
Specified Value	Duty = 50 ± 1.5%

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Set data: 81 to page: 2, address: 01, and press the PAUSE button of the adjusting remote control unit.
3) Check that the data of page: 2, address: 02 is 01.
4) Check that Duty of CAP FG signal satisfies the specified value. If not, set data: 00 to page: 2, address: 01, and press the PAUSE button, and then, repeat steps 2) to 4).
5) Set data: 00 to page: 2, address: 01 and press the PAUSE button of the adjusting remote control unit.
6) Set data: 00 to page: 0, address: 01.

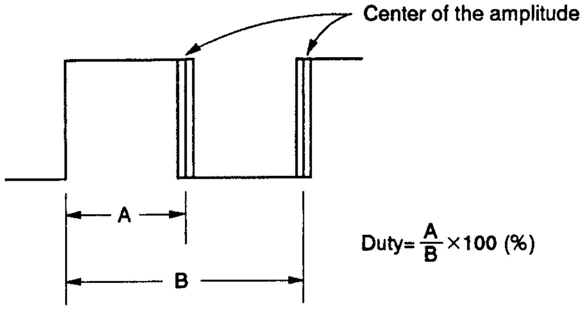


Fig. 6-3-6.

2. Switching Position Adjustment (VD-25 board)

If deviated in this case causes switching noise or jitter on the played back screen.

Mode	Playback
Signal	Alignment tape: For tracking adjustment (WR5-1NP (NTSC) WR5-1CP (PAL))
Measurement Point	CH1: Pin ④ of CN4 (RF SWP) on FP-379 board CH2: Pin ⑨ of CN4 (PB RF) on FP-379 board
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	36, 37
Specified Value	t1 = 0 ± 10 μsec

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Change the data of page: F, address: 37 and minimize "t1", and press the PAUSE button of the adjusting remote commander. (Coarse adjustment)
3) Change the data of page: F, address: 36, and adjust so that the switching position (t1) becomes the specified value. (Fine adjustment)
4) Press the PAUSE button of the adjusting remote commander.
5) Set data: 00 to page: 0, address: 01.

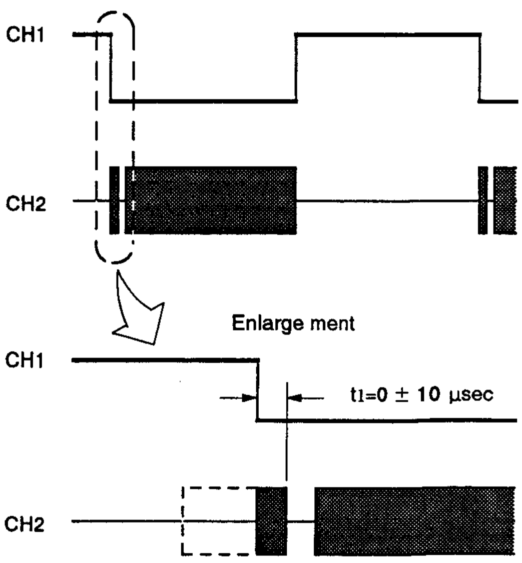


Fig. 6-3-7.

3-4. VIDEO SYSTEM ADJUSTMENTS

Video system adjustments must be performed in the following order.

[Adjusting Order]

1. 28 MHz original oscillation adjustment
2. Filter f0 adjustment
3. Y OUT level adjustment
4. C OUT level adjustment
5. RP filter f0 adjustment
6. AFC f0 adjustment
7. REC Y current adjustment
8. REC C current adjustment

1. 28MHz Original Oscillation Adjustment (CH-92 board)

Adjust the 28 MHz oscillation of the synchronization clock. If the oscillation is not 28 MHz, the period will be inaccurate or the image will not be in color.

Subject	Arbitrary
Measurement Point	Pin ⑫ of IC202 on CH-92 board or Pin ㊿ of IC114 on VD-25 board
Measuring Instrument	Frequency counter
Adjustment Page	F
Adjustment Address	3A
Specified Value	f = 14318181 ± 71 Hz (NTSC) f = 14187500 ± 70 Hz (PAL)

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Change the data of page: F, address: 3A, and adjust the oscillation frequency to the specified value.
3) Press the PAUSE button of the adjusting remote commander.
4) Set data: 00 to page: 0, address: 01.

2. Filter f0 Adjustment (VD-25 board)

Minimize the chroma signal residual components during composite video signal input.

Mode	VTR stop
Signal	Color bar (Video input)
Measurement Point	CN4 Pin ⑬ (EZ I/O)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	66
Specified Value	Minimum residual chroma signal components

Note: Do not insert a plug into the S video terminal.

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Set data: 33 to page: 3, address: 01, and press the PAUSE button of the adjusting remote commander.
3) Change the data of page: F, address: 66, and minimize the residual chroma signal components (A).
4) Press the PAUSE button of the adjusting remote commander.
5) Set data: 00 to page: 3, address: 01, and press the PAUSE button of the adjusting remote commander.
6) Set data: 00 to page: 0, address: 01.

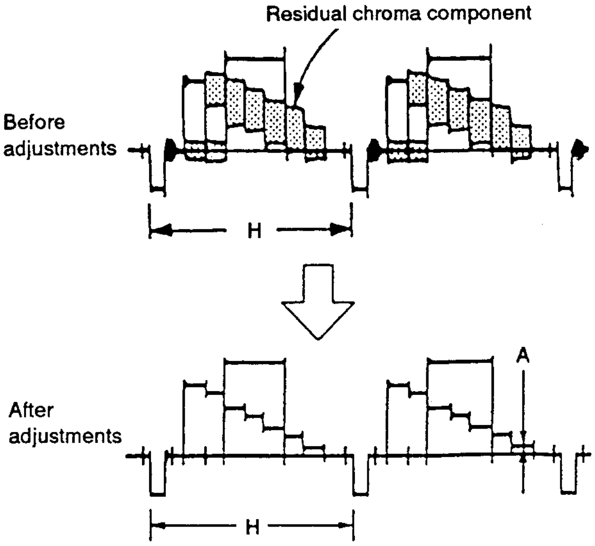


Fig. 6-3-8.

3. Y OUT Level Adjustment (VD-25 board)

Set the Y signal output level.

Mode	Camera E-E
Subject	Random
Measurement Point	Y signal terminal of S VIDEO terminal (75 terminated)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	62
Specified Value	A = 286 ± 5 mV (NTSC) A = 300 ± 5 mV (PAL)

Note: Insert the plug into the S video terminal.

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Set data: 03 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
3) Change the data of page: F, address: 62, and set the SYNC level (A) to the specified value.
4) Press the PAUSE button of the adjusting remote commander.
5) Set data: 00 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
6) Set data: 00 to page: 0, address: 01.

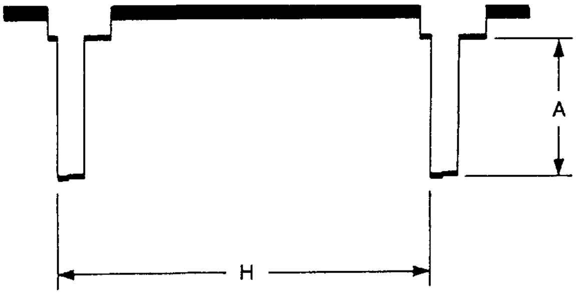


Fig. 6-3-9.

4. C OUT Level Adjustment (VD-25 board)

Set the chroma signal output level.

Mode	Camera E-E
Subject	Random
Measurement Point	Chroma signal terminal of S VIDEO terminal (75 terminated)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	64
Specified Value	A = 286 ± 5 mV (NTSC) A = 300 ± 5 mV (PAL)

Note: Insert the plug into the S video terminal.

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Set data: 03 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
3) Change the data of page: F, address: 64, and set the burst level (A) to the specified value.
4) Press the PAUSE button of the adjusting remote commander.
5) Set data: 00 to page: 2, address: 01, and press the PAUSE button of the adjusting remote commander.
6) Set data: 00 to page: 0, address: 01.

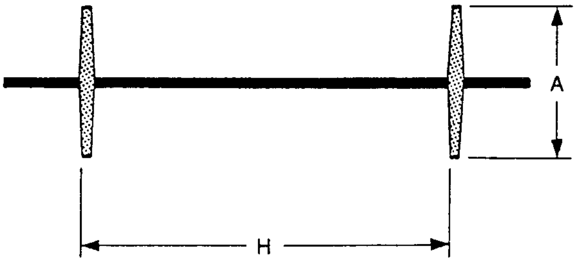


Fig. 6-3-10.

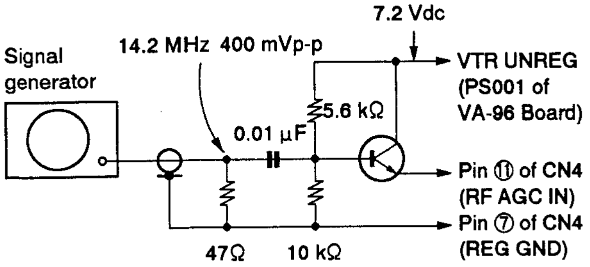
5. RP Filter fo Adjustment (VD-25 board)

Adjust the LPF of the playback RF amplifier.

Mode	Camera E-E
Subject	Random
Measurement Point	Pin ⑭ of CN4 (RF AGC OUT)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	67
Specified Value	A = Below 10 mVp-p

Connection:

1) Input a 14.2 MHz, 400 mVp-p CW signal to Pin ⑪ of CN4 (RF AGC IN).



Transistor: General NPN transistor (2SC403, etc.)

47 Ω resistor:	1-249-401-11
5.6 kΩ resistor:	1-249-426-11
10 kΩ resistor:	1-249-429-11
0.01 µF capacitor:	1-101-004-00

Fig. 6-3-11.

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Set data: 35 to page: 3, address: 01, and press the PAUSE button of the adjusting remote commander.
3) Change the data of page: F, address: 67, and minimize the 14.2 MHz signal level (A).
4) Press the PAUSE button of the adjusting remote commander.
5) Set data: 00 to page: 3, address: 01, and press the PAUSE button of the adjusting remote commander.
6) Set data: 00 to page: 0, address: 01.

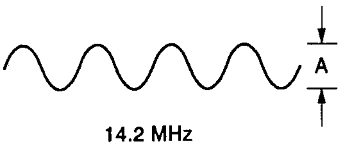


Fig. 6-3-12.

6. AFC fo Adjustment (VD-25 board)

Adjust the pull-in range of the A/D converted clock generator during playback.

Mode	VTR stop
Signal	Color bar (Video input)
Measurement Point	Pin ⑫ of CN4 (AFC F0)
Measuring Instrument	Digital voltmeter
Adjustment Page	F
Adjustment Address	63
Specified Value	A = 2.2 ± 0.05 Vdc

Note: Do not insert the plug in the S video terminal.

Adjusting method:

1) Set data: 01 to page: 0, address: 01.
2) Set data: 31 to page: 3, address: 01, and press the PAUSE button of the adjusting remote commander.
3) Change the data of page: F, address: 63, and set the DC voltage (A) to the specified value.
4) Press the PAUSE button of the adjusting remote commander.
5) Set data: 00 to page: 3, address: 01, and press the PAUSE button of the adjusting remote commander.
6) Set data: 00 to page: 0, address: 01.

7. REC Y Current Adjustment (VD-25 Board)

Adjust the Y FM signal recording current.

Mode	VTR recording (SP mode)
Signal	No signal
Measurement Point	Pin ⑥ of CN4 (REC RF)
Measuring Instrument	Oscilloscope (20 MHz band limitation: OFF)
Adjustment Page	F
Adjustment Address	70, 71, 72, 73, 74, 75
Specified Value	A = 185 ± 5 mV (NTSC) A = 225 ± 5 mV (PAL)

Adjusting method for NTSC:

1) Insert a Hi8 ME tape, and set the recording mode.
2) Set data: 01 to page: 0, address: 01.
3) Note down the data of page: F, address: 77, set data: FF, and press the PAUSE button of the adjusting remote commander.
4) Input data: FF to page: F, addresses: 70, 72, 73.
   Note: After setting the data, be sure to press the PAUSE button of the adjusting remote commander.
5) Change the data of page: F, address: 71, and set the REC Y signal level (A) to the specified value.
6) Press the PAUSE button of the adjusting remote commander.
7) Read the data (D71) of page: F, address: 71.
8) Input the read data (D71) to page: F, addresses: 70, 72, and 73.
   Note: After setting each data, be sure to press the PAUSE button of the adjusting remote commander.
9) Convert D71 to a decimal number to obtain D71′.
   (Refer to Table 6-4-2. Hexadecimal-Decimal Conversion Table of "Data processing" of "Service mode").
10) Calculate the adjustment data (decimal) from the following equation (decimal calculation), convert it to a hexadecimal number, and input to each adjustment address.
    Address: 74 D74′ = D71′ − 5
    Address: 75 D75′ = D71′ − 33
    Note: After setting each data, be sure to press the PAUSE button of the adjusting remote commander..
11) After setting the data noted down at step 3) for page: F, address: 77, press the PAUSE button of the adjusting remote commander.
12) Set data: 00 to page: 0, address: 01.

Adjusting method for PAL:

1) Insert a Hi8 ME tape, and set the recording mode.
2) Set data: 01 to page: 0, address: 01.
3) Note down the data of page: F, address: 77, set data: FF, and press the PAUSE button of the adjusting remote commander.
4) Input data: FF to page: F, addresses: 70, 72, 73.
   Note: After setting the data, be sure to press the PAUSE button of the adjusting remote commander.
5) Change the data of page: F, address: 71, and set the REC Y signal level (A) to the specified value.
6) Press the PAUSE button of the adjusting remote commander.
7) Read the data (D71) of page: F, address: 71.
8) Input the read data (D71) to page: F, addresses: 70, 72, and 73.
   Note: After setting each data, be sure to press the PAUSE button of the adjusting remote commander.
9) Set data: 99 to page: F, address: 74, and press the PAUSE button.
10) Set data: 8A to page: F, address: 75, and press the PAUSE button.
11) After setting the data noted down at step 3) for page: F, address: 77, press the PAUSE button of the adjusting remote commander.
12) Set data: 00 to page: 0, address: 01.

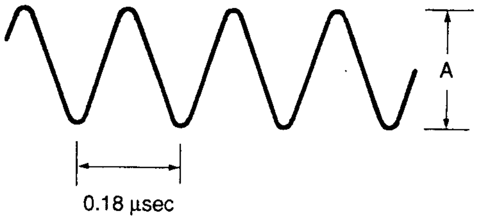


Fig. 6-3-13.

8. REC C Current Adjustment (VD-25 Board)

Adjust REC chroma signal recording current.

Mode	VTR recording (SP mode)
Signal	No signal
Measurement Point	Pin ⑥ of CN4 (REC RF)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	76, 77, 78, 79, 7A, 7B, 7C, 7D, 7E, 7F
Specified Value	A = 45.0 ± 1.6 mV (NTSC) A = 42.0 ± 1.6 mV (PAL)

Connection:

1) Connect Pin ⑤ of IC101 and GND with a 0.01 µF capasitor.
2) Connect Pin ① of IC101 and GND with a 0.01 µF capasitor.
3) Connect Pin ⑤ of IC120 and GND with a 0.01 µF capasitor.
   (Part code : 1-101-004-00)

Adjusting method for NTSC:

1) Insert a normal Hi8 ME tape, and set the recording mode.
2) Set data: 01 to page: 0, address: 01.
3) Set data: 30 to page: 2, address: 61.
4) Input data: FF to page: F, addresses: 76, 78, 79.
   Note: After setting each data, be sure to press the PAUSE button of the adjusting remote commander.
5) Change the data of page: F, address: 77, and set the REC chroma signal level (A) to the specified value.
6) Press the PAUSE button of the adjusting remote commander.
7) Read data (D77) of page: F, address: 77.
8) Input the read data (D77) to addresses: 76, 78, 79 of page: F.
   Note: After setting each data, be sure to press the PAUSE button of the adjusting remote commander.
9) Convert D77 to a decimal number, to obtain D77′.
   (Refer to Table 6-4-2. Hexadecimal-Decimal Conversion Table of "Data processing" of "Service mode").
10) Calculate the adjustment data (decimal) from the following equation (decimal calculation), convert it to a hexadecimal number, and input to each adjustment address.
    Address: 7A D7A′ = D77′ + 8
    Address: 7B D7B′ = D77′ + 8
    Address: 7C D7C′ = D77′ + 8
    Address: 7D D7D′ = D77′ + 8
    Address: 7E D7E′ = D77′ − 55
    Address: 7F D7F′ = D77′ − 54
    Note: After setting each data, be sure to press the PAUSE button of the adjusting remote commander.
11) Set data: 00 to page: 2, address: 61.
12) Set data: 00 to page: 0, address: 01.

Adjusting method for PAL:

1) Insert a normal Hi8 ME tape, and set the recording mode.
2) Set data: 01 to page: 0, address: 01.
3) Set data: 30 to page: 2, address: 61.
4) Input data: FF to page: F, addresses: 76, 78, 79.
   Note: After setting each data, be sure to press the PAUSE button of the adjusting remote commander.
5) Change the data of page: F, address: 77, and set the REC chroma signal level (A) to the specified value.
6) Press the PAUSE button of the adjusting remote commander.
7) Read data (D77) of page: F, address: 77.
8) Input the read data (D77) to addresses: 76, 78, 79 of page: F.
   Note: After setting each data, be sure to press the PAUSE button of the adjusting remote commander.
9) Convert D77 to a decimal number, to obtain D77′.
   (Refer to Table 6-4-2. Hexadecimal-Decimal Conversion Table of "Data processing" of "Service mode").
10) Calculate the adjustment data (decimal) from the following equation (decimal calculation), convert it to a hexadecimal number, and input to each adjustment address.
    Address: 7A D7A′ = D77′ + 12
    Address: 7B D7B′ = D77′ + 12
    Address: 7C D7C′ = D77′ + 12
    Address: 7D D7D′ = D77′ + 12
    Note: After setting each data, be sure to press the PAUSE button of the adjusting remote commander.
11) Set data: 80 to page: F, address: 7E, and press the PAUSE button.
12) Set data: 80 to page: F, address: 7F, and press the PAUSE button.
13) Set data: 00 to page: 2, address: 61.
14) Set data: 00 to page: 0, address: 01.

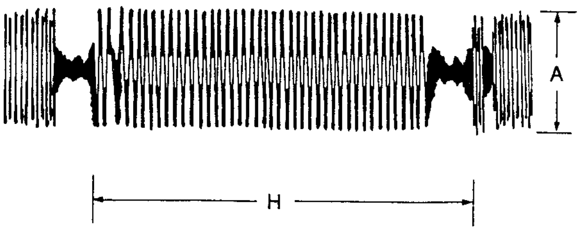


Fig. 6-3-14.

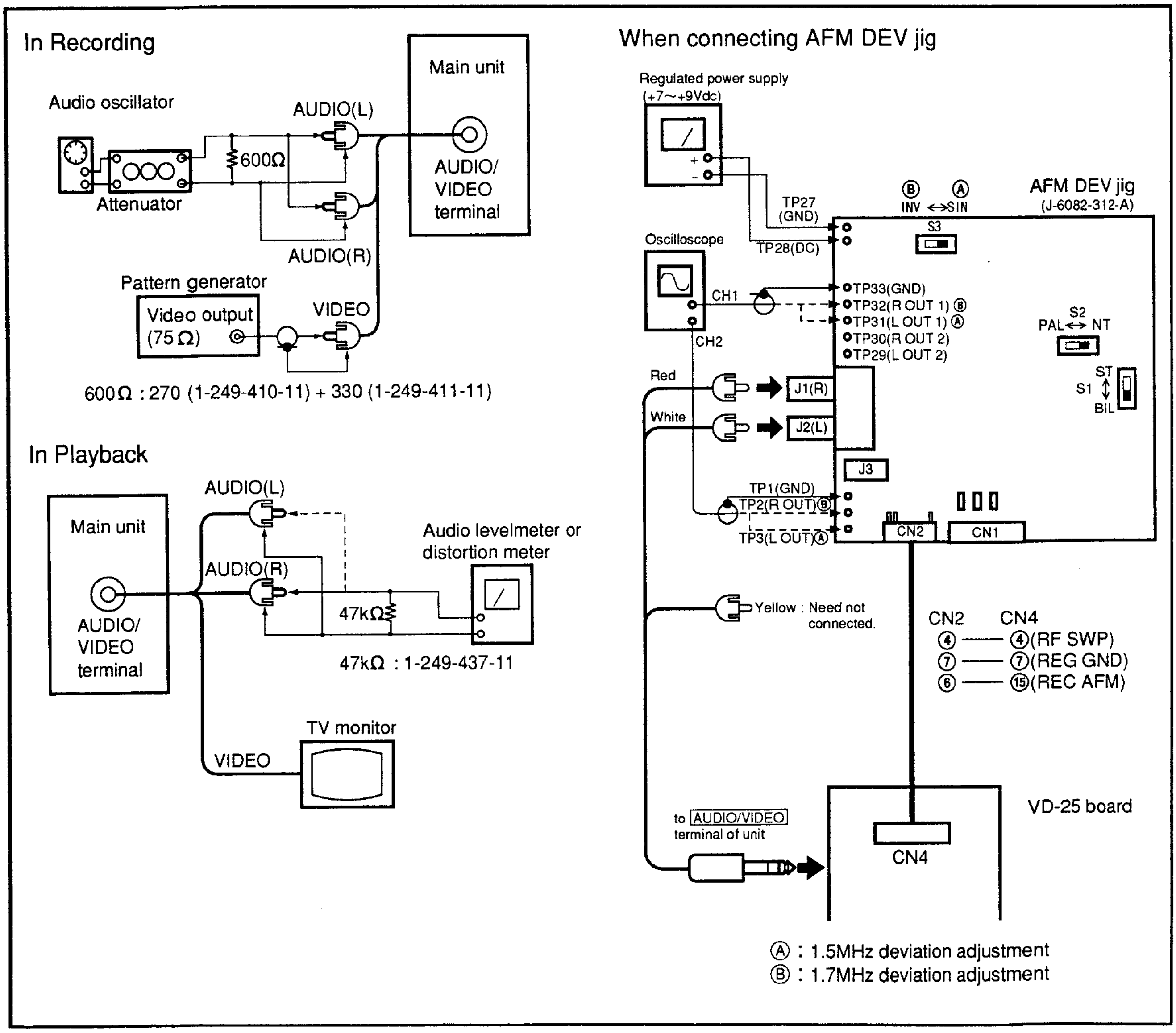
3-5. AUDIO SYSTEM ADJUSTMENT

- The items to be adjusted for the R channel will be indicated within the [ ], in regard to the adjusting items to be adjusted for both L and R channels.
- Set the Hi-Fi sound switch in the menu display to “STEREO” position unless specified otherwise.

[Connecting the measuring instruments for the audio]
Connect the audio system measuring instruments in addition to the video system measuring instruments as shown in Fig. 6-3-15, and perform adjustments at the power switch [VTR or PLAYER] position.

[Adjustment Procedure]

1) 1.5 MHz deviation adjustment
2) 1.7 MHz deviation adjustment
3) BPF adjustment


In Recording
Main unit
Audio oscillator
AUDIO(L)
600Ω
Attenuator
AUDIO/
VIDEO
terminal
AUDIO(R)
Pattern generator
Video output
(75Ω)
VIDEO
In Playback
AUDIO(L)
Main unit
Audio levelmeter or
distortion meter
AUDIO(R)
47kΩ
AUDIO/
VIDEO
terminal
TV monitor
VIDEO
When connecting AFM DEV jig
Regulated power supply
(+7~+9Vdc)
+
-
TP27
(GND)
Ⓑ Ⓐ
INV ↔SIN
AFM DEV jig
(J-6082-312-A)
S3
Oscilloscope
TP28(DC)
CH1
TP33(GND)
TP32(R OUT 1) Ⓑ
TP31(L OUT 1) Ⓐ
TP30(R OUT 2)
TP29(L OUT 2)
S2
PAL↔ NT
CH2
Red
J1(R)
ST
S1
BIL
White
J2(L)
J3
TP1(GND)
TP2(R OUT)Ⓑ
TP3(L OUT)Ⓐ
CN2
CN1
Yellow : Need not connected.
CN2 CN4
④ —— ④(RF SWP)
⑦ —— ⑦(REG GND)
⑥ —— ⑮(REC AFM)
to AUDIO/VIDEO terminal of unit
VD-25 board
CN4

600Ω : 270 (1-249-410-11) + 330 (1-249-411-11)

47kΩ : 1-249-437-11

Ⓐ : 1.5MHz deviation adjustment
Ⓑ : 1.7MHz deviation adjustment

Fig. 6-3-15.

1. 1.5 MHz Deviation Adjustment

Sets the spectrum of the L-ch (L+R/2 signal) level modulated during recording. If deviated, the crosstalk of the audio signal will occur and the audio level will drop during both playback and recording.

Mode	VTR recording
Signal	Input the AFM DEV jig output signal to the right and left audio terminals of AUDIO/VIDEO terminal (Note 1)
Measuring point	CH1: AFM DEV jig TP31 CH2: AFM DEV jig TP3
Measuring device	Oscilloscope ADD mode CH2 INV mode
Adjustment page	F
Adjustment address	5E
Specified value	The difference between CH1 signal and CH2 signal should be minimum.

Note 1: Video input is no signal.

Connection:

1) Connect CN2 of the AFM DEV jig to CN4 of the VD-25 board.
2) Connect the audio output terminal (J1 and J2) of the AFM DEV jig to the audio terminals of AUDIO/VIDEO terminal of the unit.
3) Connect TP28 (DC), TP27 (GND) of the AFM DEV jig to the DC power supply (+7 Vdc to +9 Vdc).
4) Set the AFM DEV jig switches to the following positions.

S1 .... BIL position
S2 .... NT position (NTSC)
PAL position (PAL)
S3 .... SIN position

Adjustment Method:

1) Match the vertical ranges of CH1 and CH2 of the oscilloscope to each other.
2) Set the oscilloscope to the ADD mode and CH2 to the INV (inverse) mode.
3) Set data: 01 to page: 0, address: 01.
4) Change the data of page: F, address: 5E and minimize the audio signal level difference (A).
5) Press the PAUSE button of the adjusting remote commander.
6) Set data: 00 to page: 0, address: 01.

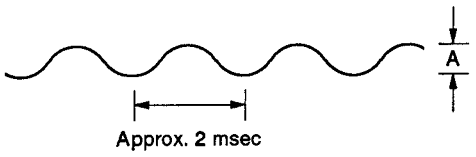


Fig. 6-3-16.

2. 1.7 MHz Deviation Adjustment

Sets the spectrum of the R-ch (L–R/2 signal) level modulated during recording. If deviated, the crosstalk of the audio signal will occur and the audio level will drop during both playback and recording.

Mode	VTR recording
Signal	Input the AFM DEV jig output signal to the right and left audio terminals of AUDIO/VIDEO terminal (Note 1)
Measuring point	CH1: AFM DEV jig TP32 CH2: AFM DEV jig TP2
Measuring device	Oscilloscope ADD mode CH2 INV mode
Adjustment page	F
Adjustment address	5F
Specified value	The difference between CH1 signal and CH2 signal should be minimum.

Note 1: Video input is no signal.

Connection:

1) Connect CN2 of the AFM DEV jig to CN4 of the VD-25 board.
2) Connect the audio output terminal (J1 and J2) of the AFM DEV jig to the audio terminals of AUDIO/VIDEO terminal of the unit.
3) Connect TP28 (DC), TP27 (GND) of the AFM DEV jig to the DC power supply (+7 Vdc to +9 Vdc).
4) Set the AFM DEV jig switches to the following positions.

S1 .... BIL position
S2 .... NT position (NTSC)
PAL position (PAL)
S3 .... INV position

Adjustment Method:

1) Match the vertical ranges of CH1 and CH2 of the oscilloscope to each other.
2) Set the oscilloscope to the ADD mode and CH2 to the INV (inverse) mode.
3) Set data: 01 to page: 0, address: 01.
4) Change the data of page: F, address: 5F and minimize the audio signal level difference (A).
5) Press the PAUSE button of the adjusting remote commander.
6) Set data: 00 to page: 0, address: 01.

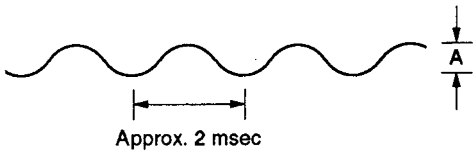


Fig. 6-3-17.

3. BPF f0 Adjustment

Sets the BPF passing frequency so that the AFM signal can separate from the playback RF signal properly. If deviated. the mono/stereo mode will be differentiated incorrectly, and noises and distortions will increase during high volume playback.

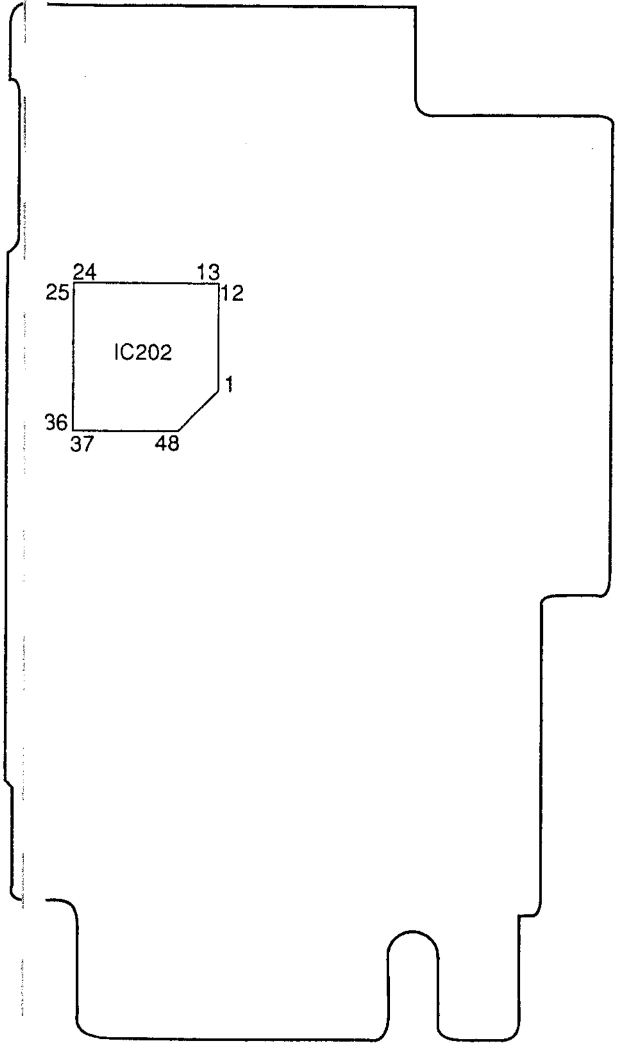
Mode	Playback
Signal	Alignment tape: For BPF adjustment WR5-11NS (NTSC) WR5-11CS (PAL)
Measuring point	Right or left audio output terminal
Measuring device	Distortion meter
Adjustment page	F
Adjustment address	60
Specified value	The right and left channel distortion rates should be almost the same (within ± 1%) and minimum

Adjustment Method:

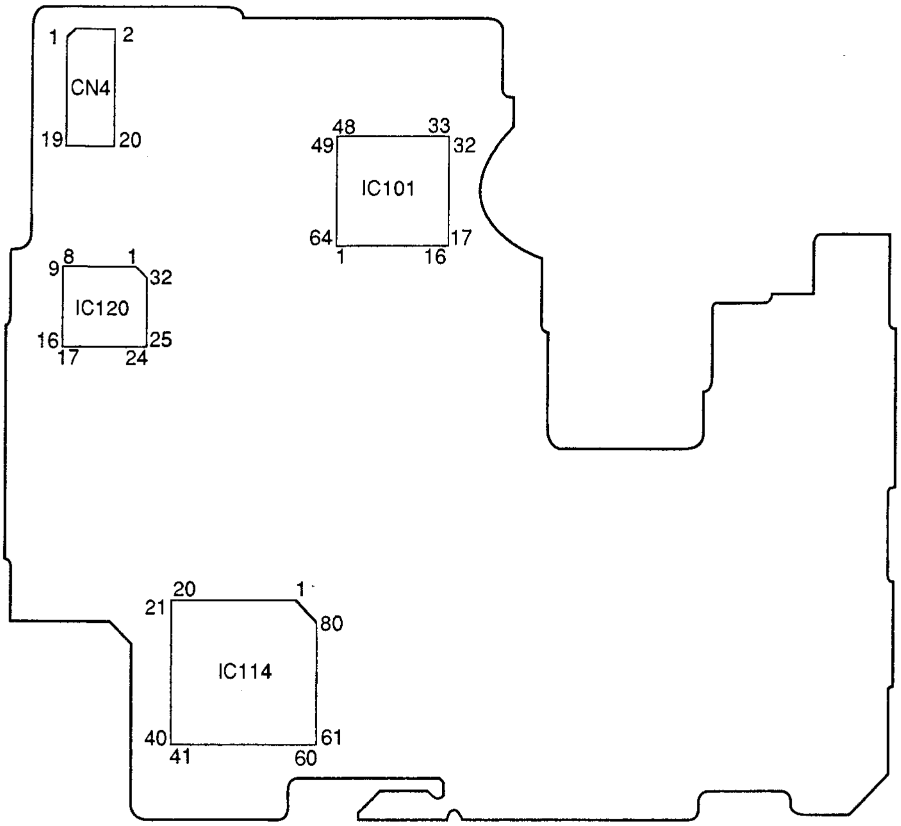
1) Set data: 01 to page: 0, address: 01.
2) Set the Hi-Fi sound switch (menu display) to “ $\boxed{2}$ ”.
3) Change the data of page: F, address: 60 and minimize the distortion rate.
4) Press the PAUSE button of the adjusting remote commander.
5) Set the Hi-Fi sound switch to “ $\boxed{1}$ ”.
6) Change the data of page: F, address: 60 and minimize the distortion rate.
7) Press the PAUSE button of the adjusting remote commander.
8) Repeat steps 2) to 7) and set the data of address: 60 so that the distortions rates when the Hi-Fi sound switch is set to “ $\boxed{2}$ ” and set to “ $\boxed{1}$ ” respectively are almost the same and minimum.
9) Press the PAUSE button of the adjusting remote commander.
10) Set data: 00 to page: 0, address: 01.
11) Set the Hi-Fi sound switch to “STEREO”.

3. ARRANGEMENT DIAGRAM FOR ADJUSTMENT PARTS

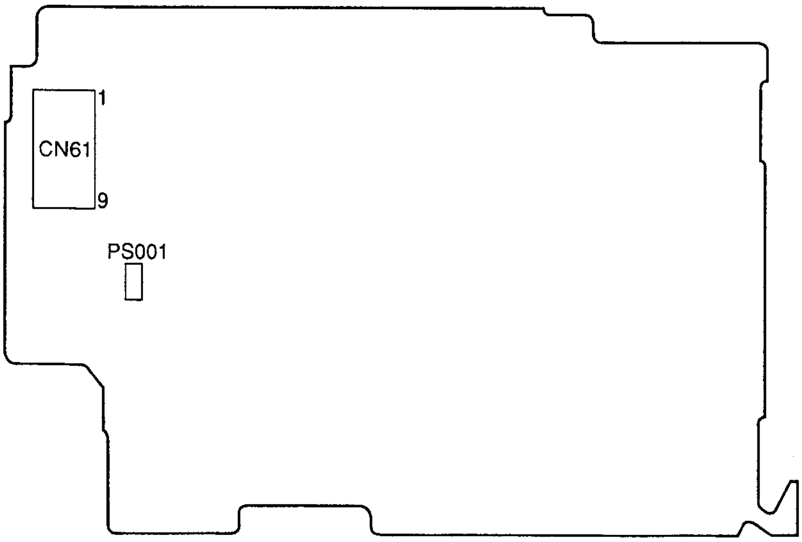
CH-92 BOARD (SIDE A)


24
13
25
12
IC202
1
36
37
48

VD-25 BOARD (SIDE A)


1
2
CN4
19
20
48
33
49
32
IC101
64
17
1
16
9
8
1
32
IC120
16
25
17
24
20
1
21
80
IC114
40
61
41
60

VA-96 BOARD (SIDE A)


1
CN61
9
PS001

6-4. SERVICE MODE

4-1. Adjusting Remote Commander

The adjusting remote commander is used for changing the calculation coefficient in signal processing, EVR data, etc. The adjusting remote commander performs bi-directional communication with the unit using the remote commander signal line (LANC). The resultant data of this bi-directional communication is written in the non-volatile memory.

1. Using the adjusting remote commander

1) Connect the adjusting remote commander to the remote terminal.
2) Adjust the HOLD switch of the adjusting remote commander to "HOLD" (SERVICE position).

If it has been properly connected, the LCD on the adjusting remote commander will display as shown in Fig. 6-4-1.

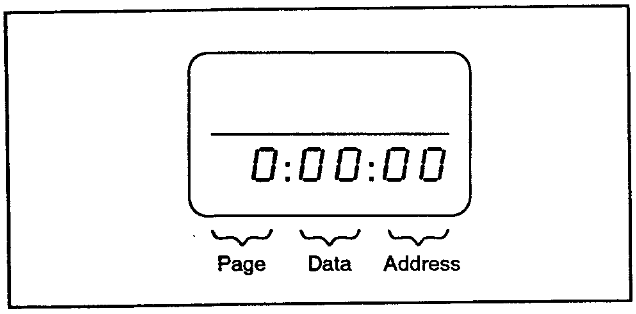


Fig. 6-4-1.

3) Operate the adjusting remote commander as follows.
   - Changing the page
     The page increases when the EDIT SEARCH+ button is pressed, and decreases when the EDIT SEARCH– button is pressed. There are altogether 16 pages, from 0 to F.

Hexadecimal notation	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
LCD Display	0	1	2	3	4	5	6	7	8	9	A	b	c	d	E	F
Decimal notation conversion value	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

Table 6-4-1.

   - Changing the address
     The address increases when the FF (▶▶) button is pressed, and decreases when the REW (◀◀) button is pressed. There are altogether 256 addresses, from 00 to FF.
   - Changing the data (Data setting)
     The data increases when the PLAY (▶) button is pressed, and decreases when the STOP (■) button is pressed.
     There are altogether 256 data, from 00 to FF.
   - Writing the adjustment data
     The PAUSE button must be pressed to write the adjustment data (F page) in the nonvolatile memory. (The new adjustment data will not be recorded in the nonvolatile memory if this step is not performed.)
4) Select page: 0, address: 01, and set the data to 01, and enables Page D and E, F to be adjusted.
5) After completing all adjustments, set data: 00 to page: 0, address: 01 and turn off the main power supply (7.2V) once.

2. Precautions upon using the adjusting remote commander

Mishandling of the adjusting remote commander may erase the correct adjustment data at times. To prevent this, it is recommended that all adjustment data be noted down before beginning adjustments and new adjustment data after each adjustment.

4-2. Data Processing

The calculation of the DDS display and the adjusting remote commander display data (hexadecimal notation) are required for obtaining the adjustment data of some adjustment items. In this case, after converting the hexadecimal notation to decimal notation, calculate and convert the result to hexadecimal notation, and use it as the adjustment data. Table 6-4-2. indicates the hexadecimal notation-the decimal notation calculation table.

Hexadecimal notation-Decimal notation

②↓

The lower digits of the hexadecimal notation The upper digits of the hexadecimal notation	0	1	2	3	4	5	6	7	8	9	A (A)	B (b)	C (c)	D (d)	E (E)	F (F)
0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
2	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
3	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
4	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
5	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
6	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
7	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
8	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
9	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
A (A)	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
①→ B (b)	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
C (c)	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
D (d)	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
E (E)	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
F (F)	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255

Note: ( ) indicate the adjusting remote control unit display.

(Example) In the case that the DDS display and the adjusting remote control unit display are BD (*bd*).
As the upper digit of the hexadecimal notation is B (b), and the lower digit is D (d), the intersection "189" of the ① and ② in the above table is the decimal notation to be calculated.

Table 6-4-2.

4-3. Service Mode

Additional note on adjustment

Note: After the completion of the all adjustments, cancell the service mode by either of the following ways.

1) Unplug the main power supply and remove the lithium battery. (In this case, date and time and menu setting have been set by users are canceled. Perform resetting.)
2) After data on page: D and F is restored, return data of the address: 01 on page: 0 to 00. And when data on page: 2 or page: 3 is changed, return the data to the original condition.

1. Test mode setting

Set/release each test mode. Set data: 01 to page: 0, address: 01 before setting the data of page D.

Page F	Address 29

Data	Function
00	Normal
01	Test mode Various emergency prohibitions and releases Drum emergency, capstan emergency, loading motor emergency, reel emergency, tape top and end, DEW detection

Page D	Address 10

Data	Function
00	Normal
01	Camera power ON
02	VTR power ON
03	Camera+VTR power ON

- * For page D and F, the data set will be recorded in the nonvolatile memory by pressing the PAUSE button on the adjusting remote commander. Take note that, in this case, the test mode will not be released even if the main power has been turned off (7.2 Vdc).
- * Be sure to return this address data to 00 after completing adjustments/repairs and press the PAUSE button of the adjusting remote commander. And set data: 00 to page: 0, address: 01.

2. Emergency Memory Address

Page F	Address 10 to 1B

Address	Contents
10	1st EMG code Target
12	Upper: MSW code when the mechanism starts shifting the 1st time Lower: MSW code when the 1st emergency occurs
13	Lower: Target MSW code of the 1st emergency occurs
14	2nd EMG code
16	Upper: MSW code when the mechanism starts shifting the 2nd time Lower: MSW code when the 2nd emergency occurs
17	Lower: Target MSW code of the 2nd emergency occurs
18	Last EMG code
1A	Upper: MSW code when the mechanism starts shifting the last time Lower: MSW code when the last emergency occurs
1B	Lower: Target MSW code of the last emergency occurs

When there are no emergency, data 00 will be written in the above addresses (10 to 1B). When the first emergency occurs, the data corresponding to the emergency will be written in the address (10 to 13) for this first emergency. In the same way, when the second emergency occurs, the data corresponding to the emergency will be written in the address (14 to 17) for this second emergency.

The data corresponding to the emergency occurring the last will be written in the address (18 to 1B) for this last emergency.

Therefore the data of addresses 18 to 1B are renewed each time an emergency occurs.

Note 1: Be sure to rewrite the data of addresses 10 to 1B to 00 after repairs/adjustments.

Note 2: When rewriting the data, be sure to press the PAUSE buttton of the remote commander after setting the data.

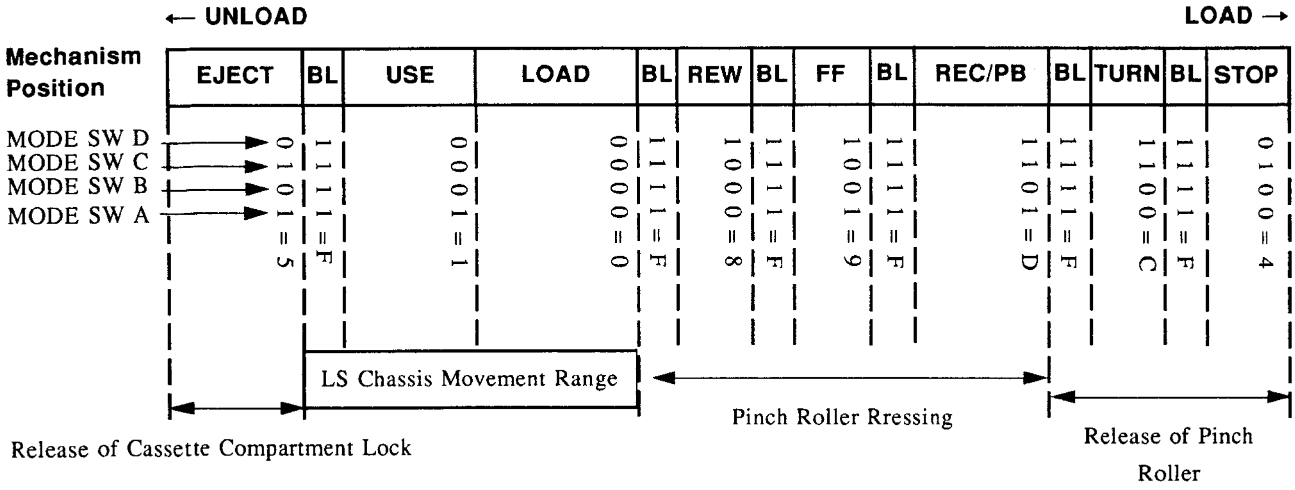
2-1. EMG CODE (Emergency Code)

The codes shown in the following table which correspond to errors that occur are recorded in addresses 10, 14, and 18.

Code	Type of Emergency
00	No error
10	Loading motor time-out during loading
11	Loading motor time-out during unloading
20	T reel emergency (reel slack) during unloading
21	S reel emergency (reel slack) during unloading
22	T reel emergency
23	S reel emergency
30	FG emergency at the start up of the capstan
31	FG emergency during the normal rotation of the capstan
40	FG emergency at the start up of the drum
41	PG emergency at the start up of the drum
42	FG emergency during the normal rotation of the drum
43	PG emergency during the normal rotation of the drum
44	Phase emergency during the normal rotation of the drum

2-2. MSW Codes

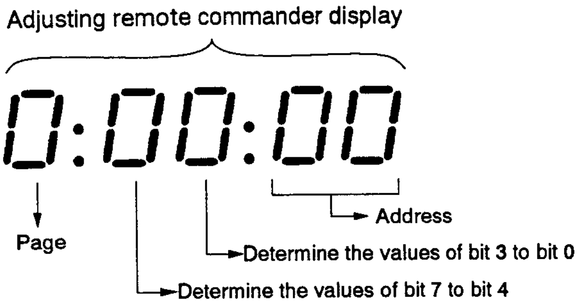
- The lower parts of the data of addresses 12, 16 and 1A represent the MSW codes (mode switch, mechanism position) when errors occurs.
- The upper parts of the data of addresses 12, 16 and 1A represent, when the mechanism position is to be moved, the MSW codes at the start of movement (when moving the loading motor).
- The lower parts of the data of addresses 13, 17 and 1B represent the MSW codes of the desired movement when the mechanism position is to be moved.


← UNLOAD
LOAD →
Mechanism Position
EJECT
BL
USE
LOAD
BL
REW
BL
FF
BL
REC/PB
BL
TURN
BL
STOP
MODE SW D
MODE SW C
MODE SW B
MODE SW A
0101=5
1111=F
0001=1
0000=0
1111=F
1000=8
1111=F
1001=9
1111=F
1101=D
1111=F
1100=C
1111=F
0100=4
LS Chassis Movement Range
Pinch Roller Rressing
Release of Cassette Compartment Lock
Release of Pinch Roller

Mechanism Position	MSW Code	Contents
EJECT	5	Position at which the cassette compartment lock is released. Position which is mechanically nearest the unskate end side. The mechanism will not move any further in the UNLOAD direction.
BL	F	BLANC code. Between two codes. The mechanism will not be stopped by this code while it is operating.
USE	1	EJECT completion position. When the cassette is ejected, the mechanism will stop at this position. The TG1 and TG9 guides will start to come out as the mechanism moves into the LOAD position. This code is wide.
LOAD	0	Code during loading. Code that is used while the LS chassis is moving. LS operations and guide loading are carried out.
REW	8	REW position. REW, FR_REV are carried at this position.
FF	9	FF position. Except during the FF mode and UE from FF, this position is not used.
RP	D	PB, REC, CUE/REV, PAUSE positions. The pinch roller is pressed and tension regulator is on. The mechanism operates in this position in modes where normal images are displayed.
TURN	C	Position at which the pendulum gear is swung when the direction of tape running is changed while images such as PB-Review are being displayed. The pinch roller turns off with the tension regulator on.
STOP	4	Stop position in the loading state. The pinch roller separates, the tension regulator returns, and the brakes of both reels turn on. The mechanism will not move any further in the loading direction.
NULL	3	This code does not exist in the mechanism deck. It will be recorded in the error memory when errors occur while the loading motor is not driven.

3. Bit value discrimination

Bit values must be discriminated using the display data of the adjusting remote commander for the following items. Use the table below to discriminate if the bit value is “1” or “0”.


Adjusting remote commander display
0:00:00
Page
Address
Determine the values of bit 3 to bit 0
Determine the values of bit 7 to bit 4

Remote controller display	Bit value			
	bit 3 or bit 7	bit 2 or bit 6	bit 1 or bit 5	bit 0 or bit 4
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
Ⓐ→ 8	1	0	0	0
9	1	0	0	1
A (A)	1	0	1	0
B (b)	1	0	1	1
C (c)	1	1	0	0
D (d)	1	1	0	1
Ⓑ→ E (E)	1	1	1	0
F (F)	1	1	1	1

(Example) If the remote commander display data is “8E”, bit values from bit7 to bit4 can be discriminated from column Ⓐ, and those from bit3 to bit0 from column Ⓑ.

4. Input/output selection check

Page 3	Address 16

Bit	Function	When bit value = 1	When bit value = 0
0	Not S video terminal input		S video terminal input
1	AUDIO/VIDEO		AUDIO/VIDEO
2			
3	Easy connector monaural input	Monaural	
4			
5			
6			
7			

Using method:

1) Select address: 16 of page: 3.
2) By discriminating the bit value of the display data, the state of the input/output selection can be discriminated.

5. Condensation, head clogging check

Page 3	Address 17

Bit	Function	When bit value = 1	When bit value = 0
0	Condensation state (1 hour preservation)	Condensation	
1	Head clogging	Head clogging	
2			
3			
4			
5			
6			
7			

Using method:
1) Select address: 17 of page: 3.
2) By discriminating the bit value of the display data, the state of the VTR can be discriminated.

6. VTR state check (1)

Page 3	Address 18

Bit	Function	When bit value = 1	When bit value = 0
0	Video/audio circuit PB mode	PB mode	REC/E-E mode
1			
2			
3			
4	Head clog detection when REC	Head clog	
5			
6	Recorded tape playback	Playback	
7	Capstan rotation	Rotation	

Using method:
1) Select address: 18 of page: 3.
2) By discriminating the bit value of the display data, the state of the VTR can be discriminated.

7. VTR state check (2)

Page 3	Address 19

Bit	Function	When bit value = 1	When bit value = 0
0	Eject state	Eject state	
1	Cassette insertion state	Cassette in	
2	Cassette accidental erasure prevention	Accidental erasure prevention state	
3	Tape type	ME	MP
4	Tape type	Hi8 MP	NORMAL MP, ME
5	Crystal variable speed playback	Variable speed playback	
6	Variable speed playback mode	Variable speed playback mode	
7	DRUM	DRUM rotation	Stop

Using method:
1) Select address: 19 of page: 3.
2) By discriminating the bit value of the display data, the state of the VTR can be discriminated.

8. VTR state check (3)

Page 3	Address 1A

Bit	Function	When bit value = 1	When bit value = 0
0	Playback tape recording mode	Hi8	NORMAL
1	Tape runing mode	SP	LP
2	Audio mode	Monaural	Stereo
3			
4			
5			
6			
7			

Using method:

1) Select address: 1A of page: 3.
2) By discriminating the bit value of the display data, the state of the VTR can be discriminated.

9. Record of Use Check

Page 3	Address E0 to E9

Address	Function		Remarks
E0	Service status		For checking reset. Normal = "FF". Reset: "00"
E1	Drum rotation counted time (BCD code)	Hour (H)	1000th place digit and 100th place digit of counted time (decimal digit)
E2		Hour (L)	10th place digit and 1st place digit of counted time (decimal)
E3		Minute	
E4	User initial power on date (BCD code)	Year	After setting the clock, set the date of power on next
E5		Month	
E6		Day	
E7	Final condensation occurrence date (BCD code)	Year	
E8		Month	
E9		Day	

Using method:

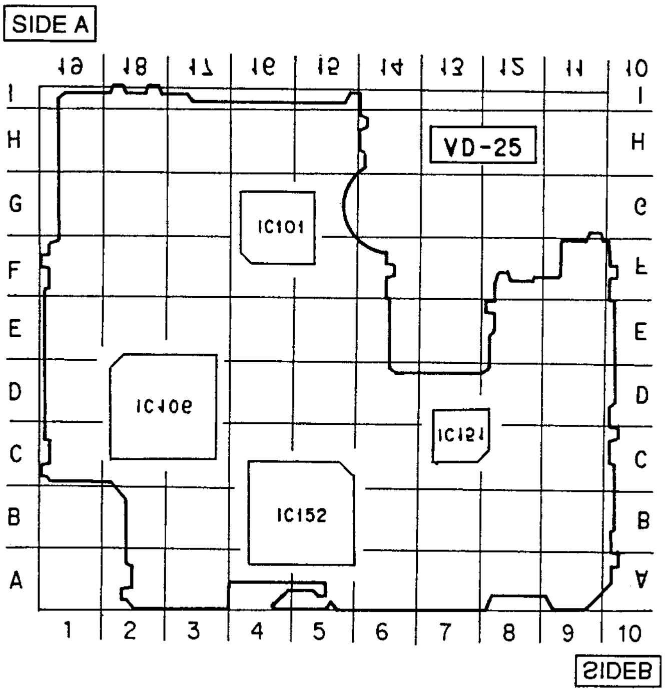
1) The record of use data is displayed at addresses: E0 to E9 of page 3.

Note: This data will be erased when the coin lithium battery is removed (reset).

<PARTS REFERENCE SHEET>

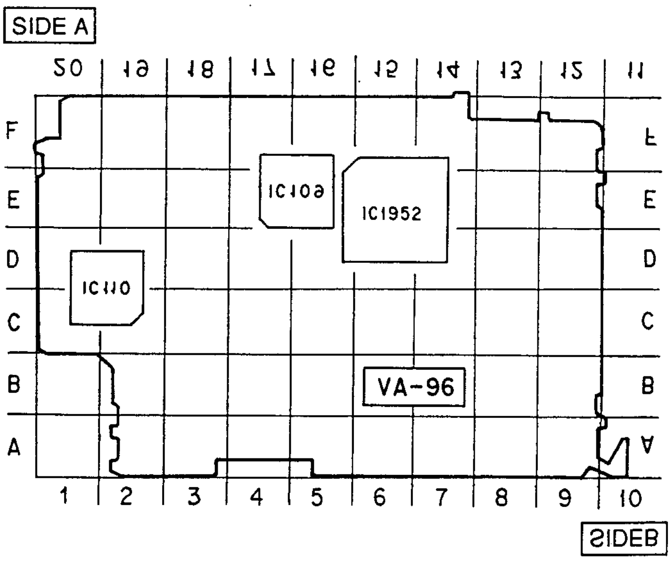
You can find the parts position of mount locations applying to boards of a set.

Take a copy CAMERA COLOR REPRODUCTION FRAME and PARTS REFERENCE SHEET with a clear sheet for use.



SIDE A
VD-25
IC101
IC106
IC121
IC152
A
B
C
D
E
F
G
H
I
1
2
3
4
5
6
7
8
9
10
SIDE B

CCD-SC55/SC55E



SIDE A
IC109
IC1952
IC110
VA-96
A
B
C
D
E
F
1
2
3
4
5
6
7
8
9
10
SIDE B

CCD-SC55/SC55E

216125

V16066

CCD-SC55/SC55E
RMT-715/716

SONY

SERVICE MANUAL

US Model
Canadian Model
CCD-SC55
AEP Model
UK Model
Australian Model
CCD-SC55E
E Model
Hong Kong Model
CCD-SC55/SC55E

SUPPLEMENT-1

File this supplement with the Service manual.
(98-021)

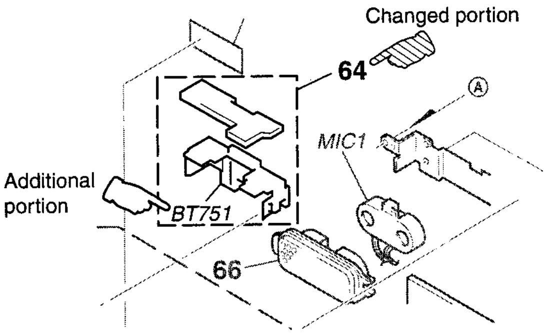
Subject : Change of the part

SECTION 5
REPAIR PARTS LIST

Page 5-2

5-1. EXPLODED VIEW
5-1-2. CABINET (FRONT) ASSEMBLY

☞ or ▩:Changed portion
☞ or ░:Additional portion



Ref. No.	Part No.	Description	Remark
BT751	1-694-075-11	TERMINAL BOARD, BATTERY	

Page 5-18

5-1. ELECTRICAL PARTS LIST
PD-64 BOARD

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R864	1-218-973-11	METAL GLAZE	47K	5%	1/16W

Page 5-31

VD-25 BOARD

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R1806	1-218-966-11	METAL GLAZE	12K	5%	1/16W (SC55E)
R1806	1-218-967-11	METAL GLAZE	15K	5%	1/16W (SC55)

Page 5-32

Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS **************	
211	1-547-931-12	LENS, ZOOM (VCL-4210VA)	
251	1-547-931-12	LENS, ZOOM (VCL-4210VA)	
BT751	1-694-075-11	TERMINAL BOARD, BATTERY	

ACCESSORIES & PACKING MATERIALS
****

Ref. No.	Part No.	Description	Remark
	1-573-856-11	ADAPTOR, CHANGE (SC55 : E,HK)	
	1-569-008-21	ADAPTOR, CONVERSION 2P	
	1-770-019-11	ADAPTOR, CONVERSION PLUG 3P (SC55E : UK)	
	1-751-676-11	CORD, POWER (SC55 : US,CND)	
	1-769-608-11	CORD, POWER (SC55E)	
	1-776-841-21	CORD, CONNECTION (DK-626 connecting cable, 2m)	

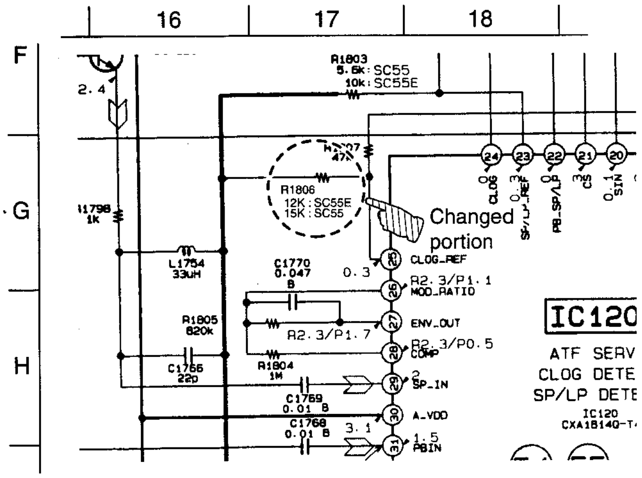
SECTION 4
PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

Page 4-45

VD-25 (SERVO SYSTEM CONTROL)
SCHEMATIC DIAGRAMS

—Ref No. VD-25 BOARD : 2,000 series—

VD-25 BOARD (6/9)

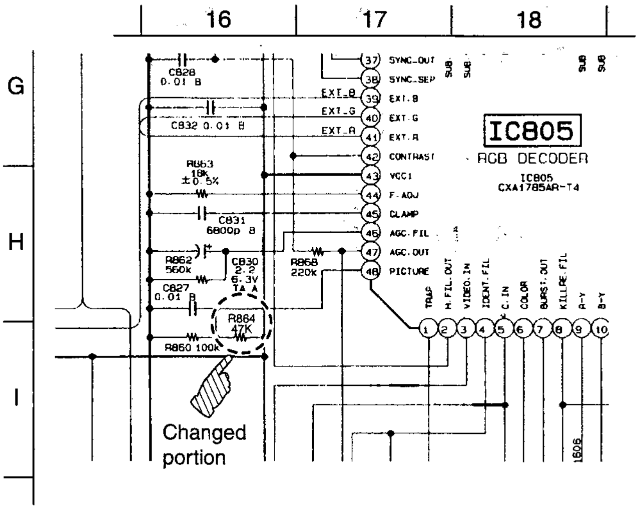

16
17
18
F
G
H
R1803 5.6k : SC55 10k : SC55E
R1807 47k
R1806 12K : SC55E 15K : SC55
Changed portion
L1754 33uH
R1798 1k
C1770 0.047 B
R1805 820k
C1766 22p
R1804 1M
C1769 0.01 B
C1768 0.01 B
CLOG_REF
MOD_RATIO
ENV_OUT
COMP
SP_IN
A_VDD
PBIN
IC120
ATF SERV
CLOG DETE
SP/LP DETE
IC120 CXA1814Q-T

Page 4-92

PD-64 (RGB DECODER, LCD CONTROL)
SCHEMATIC DIAGRAMS

—Ref No. PD-64 BOARD : 7,000 series—

PD-64 BOARD (1/2)


16
17
18
G
H
I
C828 0.01 B
C832 0.01 B
R863 18k ±0.5%
C831 6800p B
R862 560k
C830 2.2 6.3V
C827 0.01 B
R864 47K
R860 100k
R868 220k
SYNC_OUT
SYNC_SEP
EXT.B
EXT.G
EXT.R
CONTRAST
VCC1
F.ADJ
CLAMP
AGC.FIL
AGC.OUT
PICTURE
IC805
RGB DECODER
IC805 CXA1785AR-T4
Changed portion

SECTION 6
ADJUSTMENTS

Page 6-1

6-1. CAMERA SECTION ADJUSTMENTS

☞ or ▨:Changed portion

1-1. PREPARATIONS BEFORE ADJUSTMENT (CAMERA SECTION)

1-1-1. List of Service Tools

Ref. No.	Name	Parts Code	Usage
J-1	Filter for color temperature correction (C14)	J-6080-058-A	Auto white balance adjustment/check White balance adjustment/check
J-9	Power code	J-6082-223-A	For connecting the battery terminal and DC power supply
J-10	AFM DEV jig	J-6082-312-A	For adjusting the deviation
J-11	Extension cable (100P, 0.5 mm)	J-6082-352-A	For extension between the VA-96 board (CN60) and VD-25 board (CN1)
J-12	Clear chart	J-6080-621-A	

Page 6-23

4. Bright Adjustment (PD-64 board)

Adjusting method :

1) Set the data : 01 to page : 0, address : 01.
2) Change the data of page : D, address : 52, and set the voltage (A) between the reversed waveform pedestal and non-reversed waveform pedestal to the specified value.

Page 6-26

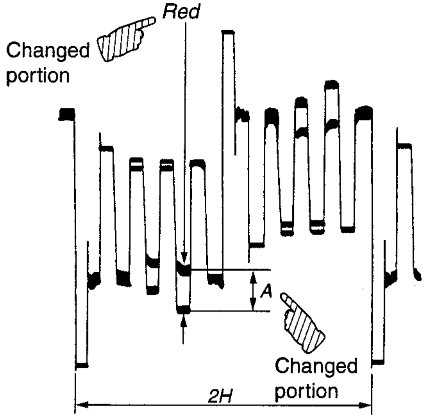
8. Burst Cleaning Adjustment for PAL model (PD-64 board)

Adjusting method :

1) Set the data : 01 to page : 0, address : 01.
2) Change the data of page : D, address : 54, and adjust so that the amplitude of the flicker of the RED section (A) becames minimum.

Page 6-26

Fig. 6-1-18.


Changed portion
Red
A
Changed portion
2H

Sony Corporation
Personal A&V Products Company

9-973-887-81

98L0984-1
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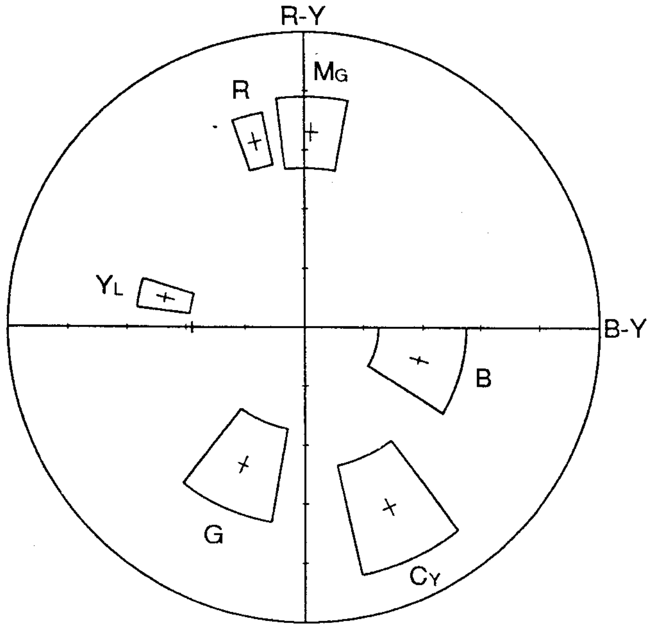
FOR CAMERA COLOR REPRODUCTION ADJUSTMENT


R-Y
MG
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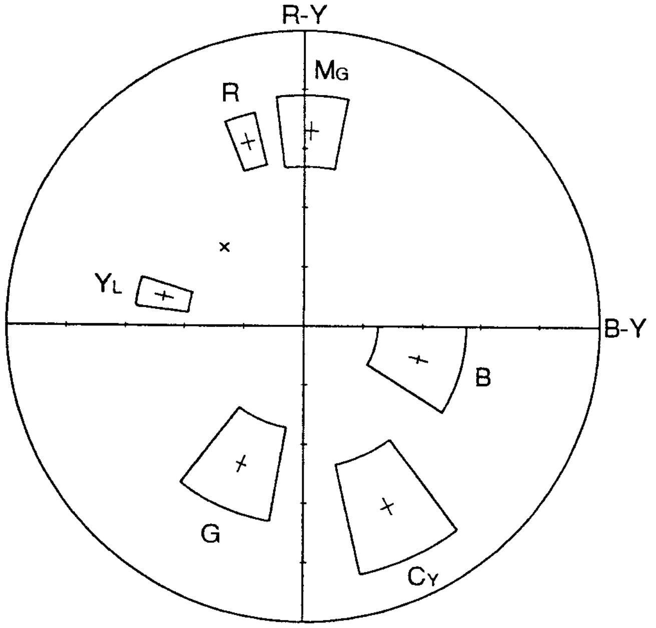
CCD-SC55

Take a copy CAMERA COLOR REPRODUCTION FRAME and Parts reference sheets with a clear sheet for use.


R-Y
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